# Biology - Bachelor of Arts

The Bachelor of Arts curriculum is intended for students who desire a broad education with emphasis in biology in a program chosen by the student in consultation with an academic advisor. The Bachelor of Arts is recommended for those who plan to teach at the primary levels or to use a background in life science in business or other endeavors.

## Requirements

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

### General Education

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area I: Communications</td>
<td>English Composition - Level 1</td>
<td>1</td>
</tr>
<tr>
<td>Area I: Communications</td>
<td>Oral Communication</td>
<td>1</td>
</tr>
<tr>
<td>Area II: Mathematics</td>
<td>MATH 1430G Applications of Calculus I</td>
<td>3-4</td>
</tr>
<tr>
<td>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</td>
<td>CHEM 1215G General Chemistry I Lecture and Laboratory for STEM Majors</td>
<td>4</td>
</tr>
<tr>
<td>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</td>
<td>CHEM 1225G General Chemistry II Lecture and Laboratory for STEM Majors</td>
<td>4</td>
</tr>
<tr>
<td>Area IV: Social/Behavioral Sciences course (3 credits)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Area V: Humanities</td>
<td>3</td>
<td></td>
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<tr>
<td>Area VI: Creative and Fine Arts</td>
<td>3</td>
<td></td>
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</tbody>
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### Biology Electives

- **BIOL 2610L** Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory (Departmental Requirement)
- **BIOL 2611L** or **BIOL 2610L**
- **BIOL 301** Principles of Ecology
- **BIOL 305** Principles of Genetics
- **BIOL 377** Cell Biology
- **BIOL 467** Evolution

### Non-Departmental Requirements (in addition to Gen.Ed/VWW)

#### Organic Chemistry Requirement

- **CHEM 2115** Survey of Organic Chemistry and Laboratory

### Departmental Requirements

- **BIOL 2110G & BIOL 2110L** Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory
- **BIOL 301** Principles of Ecology
- **BIOL 305** Principles of Genetics
- **BIOL 377** Cell Biology
- **BIOL 467** Evolution

### Selective sufficient upper-division biology electives to bring total upper-division credits to 24.

### Second Language Requirement

For the Bachelor of Arts in Biology there is a one year second language requirement, the options to complete this requirement are listed below. The number of credits that a student needs to take may vary depending on what level they come in with. Please speak with an advisor for more information as to which courses you will need to take to fulfill the second language requirement for this degree.

#### Option 1:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 1110 &amp; CHIN 1120</td>
<td>Mandarin Chinese I and Mandarin Chinese II</td>
<td>8</td>
</tr>
<tr>
<td>FREN 1110 &amp; FREN 1120</td>
<td>French I and French II</td>
<td>8</td>
</tr>
<tr>
<td>GRMN 1110 &amp; GRMN 1120</td>
<td>German I and German II</td>
<td>8</td>
</tr>
<tr>
<td>JAPN 1110 &amp; JAPN 1120</td>
<td>Japanese I and Japanese II</td>
<td>8</td>
</tr>
<tr>
<td>SPAN 1110 &amp; SPAN 1120</td>
<td>Spanish I and Spanish II</td>
<td>8</td>
</tr>
<tr>
<td>PORT 1110 &amp; PORT 1120</td>
<td>Portuguese I and Portuguese II</td>
<td>8</td>
</tr>
</tbody>
</table>

**For Heritage Speakers:**

- **SPAN 1210 & SPAN 1220** Elementary Spanish for Heritage Learners I and Spanish for Heritage Learners II
- **SPAN 2210** Spanish for Heritage Learners III

#### Option 2:

Complete the following sequence for American Sign Language (with a C- or better):

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 313</td>
<td>Organic Chemistry I</td>
<td>3-4</td>
</tr>
<tr>
<td>CHEM 314</td>
<td>and Organic Chemistry II</td>
<td>3-4</td>
</tr>
<tr>
<td>CHEM 315</td>
<td>and Organic Chemistry Laboratory</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**Select 3-4 credits from one of the following departments: astronomy, computer science, geology or physics**

**Second Language Requirement (See below)**

The number of credits required to satisfy this requirement will vary depending on the option a student choses.

**Electives, to bring the total credits to 120**

Select sufficient electives to bring the total to 120, including at least 48 upper-division credits.

**Total Credits**

120

1. See the General Education section of the catalog for a full list of courses.
2. Either MATH 1430G Applications of Calculus I or MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need prerequisite courses before entering one of these.
3. See the Viewing a Wider World section of the catalog for a full list of courses.
4. Choice of Biology electives should be done in consultation with an advisor.
5. Elective credit may vary depending on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The elective credit in the requirement list is the amount needed to bring the total to 120 credits and may vary based on the degree. Students may need to complete more or less courses on a case-by-case basis and each student should discuss this with their advisor.
SIGN 1110  American Sign Language I  3
SIGN 1120  American Sign Language II  3

Option 3:
Prefix  Title  Credits
Challenge the 1120 level for the following courses:
CHIN 1120  Mandarin Chinese II  4
or FREN 1120  French II  
or GRMN 1120  German II  
or JAPN 1120  Japanese II  
or SPAN 1120  Spanish II

Challenge the 1120/1220/2210 level for the following courses:
PORT 1120  Portuguese II  3
or SPAN 1220  Spanish for Heritage Learners II  
or SPAN 2210  Spanish for Heritage Learners III

Option 4:
Pass a three-credit, upper-division course (numbered 300 or above) taught in a second language by the department of Languages and Linguistics.

Option 5:
Obtain college certification of completion of three years of a second language at the high school level with a grade of C- or higher in the second-year level.

Option 6:
By obtaining certification of a working knowledge of a Native American language from the American Indian program director.

Option 7:
By obtaining, from the head of the Department of Languages and Linguistics, certification of a working knowledge of a second language if such language is not taught at NMSU.

Option 8:
In the case of a foreign student who is required to take the TOEFL exam admission, the dean will automatically waive the second language requirement.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Course  Title  Credits
First Year  
Semester 1
MATH 1220G  College Algebra  3
ENGL 1110G  Composition I  4
BIOL 2610G & BIOL 2610L  Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory  4
Area IV: Social and Behavioral Science Course 2  3

Semester 2
Credit

Second Year  
Semester 1
ENGL 2210G  Professional & Technical Communication  3
CHEM 1225G  General Chemistry II Lecture and Laboratory for STEM Majors  4
CHEM 1122  General Supplemental Instruction II  1
BIOL 305  Principles of Genetics  3
Elective Course  3

Semester 2
Credit

Third Year  
Semester 1
CHEM 313  Organic Chemistry I  3
CHEM 303  Organic Supplemental Instruction I  1
Upper-division Biology Elective Course  3
Next Second Language Course in Series  3-4
VWW: Viewing a Wider World Course  4
Elective Course  2

Semester 2
Credit

Fourth Year  
Semester 1
BIOL 301  Principles of Ecology  3
Upper-division Biology Elective Course  3
VWW: Viewing a Wider World Course  3
Upper-division Elective Course 3
Upper-division Elective Course 3

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 467 Evolution</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division Elective Course 1</td>
<td>3</td>
</tr>
<tr>
<td>Elective Course 3</td>
<td>4</td>
</tr>
<tr>
<td>Elective Course 3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>13</td>
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</table>

Total Credits 120-123

1 These courses have prerequisites and it is the students responsibility for checking and fulfilling all course prerequisites listed for these courses.

2 See the General Education section of the catalog for a full list of courses.

3 Elective credit may vary depending on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The elective credit in the requirement list is the amount needed to bring the total to 120 credits and may vary based on the degree. Students may need to complete more or less courses on a case-by-case basis and each student should discuss this with their advisor.

4 See the Viewing a Wider World section of the catalog for a full list of courses.