GENERAL SCIENCE,
BACHELOR OF SCIENCE

Requirements
To obtain a B.S. with a major in General Science, a student must fulfill university, college, and departmental requirements. Hour requirements follow:

- 46 hours of General Education courses
  Most commonly, General Science majors do not complete 46 hours of coursework solely for the purpose of meeting university General Education requirements. Instead, they often take six hours of coursework that meets both the six hours of diversity requirements and six hours of distribution requirements and meet the seven-hour University General Education natural sciences distribution requirement through completing major courses. In such cases, the number of credits taken solely to meet General Education requirements is reduced to 33 or fewer.
- 12-19 hours college breadth requirement
- 64-65 hours major courses
- 3-11 hours electives

Total Hours: 120

The B.S. degree with a major in General Science consists of 49-50 credits of natural science courses as outlined below and 15 credits of cognate coursework selected in collaboration with the advisor from complementary disciplines.

Arts and Sciences students must complete 27 credits of upper division coursework within their degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 1450</td>
<td>BIOLOGY I</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 1750</td>
<td>BIOLOGY II</td>
<td>5</td>
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<tr>
<td>CHEM 1180</td>
<td>GENERAL CHEMISTRY I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 1184</td>
<td>and GENERAL CHEMISTRY I LABORATORY</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 1190</td>
<td>GENERAL CHEMISTRY II</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 1194</td>
<td>and GENERAL CHEMISTRY II LABORATORY</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 1170</td>
<td>INTRODUCTION TO PHYSICAL GEOLOGY</td>
<td>4</td>
</tr>
</tbody>
</table>

Physics Required Courses
Physics may be taken on an algebraic or calculus level. Select one of the following options:

Option 1:
- PHYS 1110 & PHYS 1154 | GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I |
- PHYS 1120 & PHYS 1164 | GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II |

Option 2:
- PHYS 2110 & PHYS 1154 | GENERAL PHYSICS I - CALCULUS LEVEL and GENERAL PHYSICS LABORATORY I |
- PHYS 2120 & PHYS 1164 | GENERAL PHYSICS-CALCULUS LEVEL and GENERAL PHYSICS LABORATORY II |

Mathematics/Statistics Required Courses

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<tr>
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<tbody>
<tr>
<td>MATH 1950</td>
<td>CALCULUS I</td>
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<tr>
<td>or MATH 1940</td>
<td>CALCULUS FOR BIOMEDICINE</td>
<td></td>
</tr>
<tr>
<td>MATH 1930</td>
<td>CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (and an approved statistics course)</td>
<td></td>
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</tbody>
</table>

Electives
Select 12 credits of electives at the 2000 level or higher in at least two of the following disciplines: biology, chemistry, physics, geology.

Total Credits

Medical Laboratory Science Concentration
The B.S. in general science is offered with a concentration in medical laboratory science for students planning to apply to UNMC’s Medical Laboratory Science Program (MLS). This program was designed in collaboration with UNMC to allow a student to complete two bachelor’s degrees in as little as 122 credits. Students will apply to UNO’s General Science program and add on the medical laboratory science concentration. Following the guide below allows the student to complete UNO’s general education requirements and UNMC’s MLS pre-requisite coursework in no more than three years. Near the beginning of the student’s third year of UNO studies, they will need to apply to UNMC’s MLS program. Provided that the student has followed the curriculum as laid out below, and maintained a cumulative or math/science GPA of 3.0, he/she will be guaranteed an interview with UNMC’s MLS program. Upon acceptance into UNMC’s MLS program, students will complete 11 months of studies in specific MLS courses. After completion of the MLS program at UNMC, students may transfer their UNMC coursework back to UNO to earn a dual degree of BS MLS from UNMC/ BS GSCI-MLS concentration from UNO. Students must have a minimum of 30 credits in residence at UNO and of those, 15 credits must come from the natural and physical sciences..

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<td>BIOLOGY II</td>
<td>5</td>
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<tr>
<td>BIOL 2140</td>
<td>GENETICS</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 2440</td>
<td>THE BIOLOGY OF MICROORGANISMS</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 3240</td>
<td>INTRODUCTION TO IMMUNOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1140</td>
<td>FUNDAMENTALS OF COLLEGE CHEMISTRY</td>
<td></td>
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<tr>
<td>&amp; CHEM 1144</td>
<td>and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY</td>
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</tr>
<tr>
<td>&amp; CHEM 1190-1194</td>
<td>may be substituted for CHEM 1190-1194</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 2210</td>
<td>FUNDAMENTALS OF ORGANIC CHEMISTRY</td>
<td></td>
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<tr>
<td>&amp; CHEM 2214</td>
<td>and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 3650</td>
<td>FUNDAMENTALS OF BIOCHEMISTRY</td>
<td>4</td>
</tr>
<tr>
<td>&amp; CHEM 3654</td>
<td>and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY</td>
<td></td>
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<tr>
<td>MATH 1220</td>
<td>COLLEGE ALGEBRA</td>
<td>3</td>
</tr>
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<td></td>
<td>(–Not required if student has MATH ACT sub score of 23 or higher)</td>
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<tr>
<td>STATISTICS</td>
<td>(3 credits)</td>
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**General Science Bachelor of Science**

**Fall**

- **BIOL 1450**: BIOLOGY I (*)
- **MATH 1930**: CALCULUS FOR THE MANAGERIAL, LIFE, & SOCIAL SCIENCES (**)
- **ENGL 1150**: ENGLISH COMPOSITION I (***)

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<th>Course</th>
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<tr>
<td>PSYC 3130</td>
<td>3</td>
</tr>
<tr>
<td>STAT 3000</td>
<td>3</td>
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<tr>
<td>PA 3000</td>
<td>3</td>
</tr>
<tr>
<td>ENGLISH COMPOSITION (3 credits)</td>
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<tr>
<td>ENGL 1160</td>
<td>3</td>
</tr>
<tr>
<td>PUBLIC SPEAKING (3 credits)</td>
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<tr>
<td>CMST 1110</td>
<td>3</td>
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<tr>
<td>or CMST 2120</td>
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<tr>
<td>HUMANITIES &amp; FINE ARTS (9 credits)</td>
<td></td>
</tr>
<tr>
<td>3 Humanities &amp; Fine Arts courses of choice from UNO's University Gen Ed list and coming from at least 2 different disciplines –One should be a U.S. Diversity or Global Diversity</td>
<td>9</td>
</tr>
<tr>
<td>SOCIAL SCIENCES (6 credits)</td>
<td></td>
</tr>
<tr>
<td>2 Social Sciences of choice from UNO's University Gen Ed list –At least one should be a U.S. Diversity or Global Diversity (whichever one wasn’t taken as a humanities)</td>
<td>6</td>
</tr>
</tbody>
</table>

**Cognate Courses (15 credits minimum)**

- Selected in collaboration with UNO advisor. May not be transferred back from UNMC. Suggested courses are:
- **Biol 1060**: INTRODUCTION TO MEDICAL CAREERS & ETHICS
- **Biol 2740**: HUMAN ANATOMY AND PHYSIOLOGY I
- **Biol 2840**: HUMAN ANATOMY AND PHYSIOLOGY II
- **Math 1320**: PRE-CALCULUS ALGEBRA

| Social Science of choice (3) | 3 |

Upon acceptance to the Bachelor of Science in Medical Laboratory Science program at UNMC, students will take at least 43 credits of professional MLS coursework to transfer back toward the completion of this additional UNO degree—a B.S. in general science—medical laboratory science concentration.

If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: PHYS 1110-1154, GEOL 1170, an additional 3 credits of social sciences if not taken within the cognate, an Advanced Writing course, a minor or additional College of Arts & Sciences Gen Eds, and electives to reach 120 credits total. Students must have a minimum of 27 credits at the 3000/4000 level throughout the entire degree.

**Spring**

- **Biol 1750**: BIOLOGY II (*)
- **Stat 1530**: ELEMENTARY STATISTICS (**) 3
- **ENGL 1160**: ENGLISH COMPOSITION II (***)

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<th>Credits</th>
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<td>14</td>
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**Sophomore**

**Fall**

- **Phys 1110**
- **Phys 1154**: GENERAL PHYSICS I WITH ALGEBRA and GENERAL PHYSICS LABORATORY I (*)
- **CMST 1110**: PUBLIC SPEAKING FUNDS
- **CMST 2120**: or ARGUMENTATION AND DEBATE

| Social Science | 3 |
| Humanities and Fine Arts/US Diversity | 3 |

**Spring**

- **Phys 1120**: GENERAL PHYSICS and GENERAL PHYSICS LABORATORY II (*)
- **Geol 1170**: INTRODUCTION TO PHYSICAL GEOLOGY

| Social Science/GLOBAL DIVERSITY | 3 |
| Humanities and Fine Arts*** | 3 |

**Junior**

**Fall**

- **Chem 1180**: GENERAL CHEMISTRY I
- **Chem 1184**: and GENERAL CHEMISTRY I LABORATORY (*)
- **ENGL 3980**: TECHNICAL WRITING ACROSS THE DISCIPLINES (***)

**Credits**

<table>
<thead>
<tr>
<th><strong>Credits</strong></th>
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<td>15</td>
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HIST 1000 or Course towards Minor/2nd Major* 3
BS Cognate Course** 3

*CHEM 1180: Requires MATH 1320 within last two years, or CHEM 1140/1144 within last two years, or Math ACT sub-score of 25 or higher within the last two years, or appropriate Math Placement Exam score within the last two years. Must take CHEM 1184 concurrently.

**Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.

***ENGL 3980: Requires ENGL 1160 or appropriate placement via EPPE, AP scores or transfer credit.

*A&S College Requirement Options.

#15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.

**Credits** 16

**Spring**

CHEM 1190 & CHEM 1194 GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*) 4
Advanced General Science Elective** 3
BS Cognate Course*** 3
BS Cognate Course*** 3
HIST 1010 or Minor/2nd Major Course* 3

*CHEM 1190: Requires CHEM 1180/1184 and MATH 1320 or equivalent. Must take CHEM 1194 concurrently.

**Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.

***15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.

***A&S College Requirement Options

#15 credits minimum of Cognate courses needed. Cognate courses should be selected in consultation with your advisor. Ideally, courses are upper-level, to help you reach the 27 credit upper level minimum throughout the degree.

**Credits** 15

**Spring**

Advanced General Science Elective* 3
Elective or Minor/2nd Major Course 3
Elective or Minor/2nd Major Course 3
Elective or Minor/2nd Major Course 3
Elective or Minor/2nd Major Course 3
Elective or Minor/2nd Major Course 1

*Advanced General Science Electives: 12 credits minimum needed from at least 2 disciplines between BIOL, CHEM, GEOL, & PHYS. Must be at the 2000 level or higher.

Students must have a minimum of 120 credits to graduate and at least 27 credits 3000/4000 level coursework throughout the degree. Utilize electives to reach these minimums.

**Credits** 16

**Total Credits** 120

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

**Additional Information About this Plan:**

**University Degree Requirements:** The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

**Placement Exams:** For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php

**Transfer credit or placement exam scores may change suggested plan of study**

**Medical Laboratory Science Concentration**

**Freshman**

**Fall**

Biol 1450 BIOLOGY I (*) 5
MATH 1220 COLLEGE ALGEBRA (**) 3
ENGL 1160 ENGLISH COMPOSITION II (***) 3
Humanities and Fine Arts/US Diversity 3
Biol 1060 INTRODUCTION TO MEDICAL CAREERS & ETHICS (for suggested cognate course) 2

**Biol 1450: Requires high school biology and chemistry. College level chemistry recommended.

**MATH 1220: Requires appropriate placement via ACT, SAT or Math Placement.

**ENGL 1160: Requires appropriate placement via EPPE, AP scores or transfer credit.

B.S. Cognate courses must be 15 credits of coursework outside of the major that complements the students interests. Suggested cognate courses are Biol 1060, Biol 2740, Biol 2840, Math 1320, and a Social Science.

**Credits** 16

**Spring**

Biol 1750 BIOLOGY II (*) 5
Humanities and Fine Arts 3
Math 1320 PRE-CALCULUS ALGEBRA (**) 3
Social Science 3

**Credits** 15
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Fall

CHEM 1140 & CHEM 1144
FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)

Social Science/Global Diversity

CMST 1110 or CMST 2120
PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE

BIOL 2440
THE BIOLOGY OF MICROORGANISMS (**)

*CHEM 1140: Requires Math 1220 with grade of C- or better within past 2 years or placement.
**BIOL 2440: Requires high school biology and chemistry.

Credits 14

Spring

BIOL 2140
GENETICS (*)

CHEM 2210 & CHEM 2214
FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (**) (**) FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (*)

Humanities and Fine Arts***

Elective/Minor Course/ Course toward parallel plan major**

***HFA 33 must come from a second discipline.
**BIOL 2140: Requires BIOL 1450 and 1750, in addition to CHEM 1140 or 1180.
**CHEM 2210: Requires CHEM 1140-1144 or CHEM 1190-1194 with a grade of C- or better in each.
CHEM 2214 must be taken concurrently.
*It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.

Credits 15

Junior

Fall

BIOL 2740
HUMAN ANATOMY AND PHYSIOLOGY I

CHEM 3650 & CHEM 3654
FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (*)

PSYC 3130 or STAT 3000 or PA 3000 or SOWK 3000 or CRCJ 3000
STATISTICS FOR THE BEHAVIORAL SCIENCES (**) or STATISTICAL METHODS I or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR or APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR

BIOL 1160
TERMINOLOGY OF HUMAN HEALTH & DISEASE

*CHEM 3650: Requires concurrent enrollment in CHEM 3654. Requires CHEM 2210-2214 or CHEM 2260-2274, either of which needs to be a C- or better.

Credits 13

Spring

BIOL 2840
HUMAN ANATOMY AND PHYSIOLOGY II (**)

BIOL 3240
INTRODUCTION TO IMMUNOLOGY (**)

BS Cognate Course: Social Science of choice from 2nd discipline#

Elective/Minor course/ Course toward parallel plan major**

**BIOL 2840: Requires BIOL 2740
**BIOL 3240: Requires BIOL 1450, 1750, 2140, and junior standing. Recommended: BIOL 2440 or CHEM 3650 or Organic Chemistry.

#B.S. Cognate courses must be 15 credits of coursework outside of the major that complements the students interests. Suggested cognate courses are BIOL 1060, BIOL 2740, BIOL 2840, MATH 1320, and a Social Science.

*It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.

Credits 13

Summer

AT UNMC

After taking the above 3 years worth of courses, upon acceptance to the Bachelor of Science in Medical Laboratory Science program at UNMC, students will take at least 43 credits of professional MLS coursework to transfer back toward the completion of this additional UNO degree—a B.S. in general science–medical laboratory science concentration.

If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: PHYS 1110-1154, GEOL 1170, an additional 3 credits of social sciences if not taken within the cognate, an Advanced Writing course, a minor or additional College of Arts & Sciences Gen Eds, and electives to reach 120 credits total. Students must have a minimum of 27 credits at the 3000/4000 level throughout the entire degree.

Credits 43

Total Credits 129

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change.

**BIOL 1750: Requires BIOL 1450
**MATH 1320: Requires Math 1220 with grade of C- or better within the past 2 years or placement.

**PSYC 3130 or STAT 3000 or PA/SOWK/CRCJ 3000 all require MATH 1220 or MATH 1120 as a prereq, but MATH 1220 or higher is needed for this program.

**BIOL 1160 is helpful prior to or concurrent with enrollment in BIOL 2740, but not required.

NOTE: It is suggested that students have a parallel plan involving another major or at least a minor. Taking a course toward that major or minor here or an upper-level elective is suggested.

UNMC'S Medical Laboratory Science Program Application needs to be started this semester. Typically applications are due early October, and the program begins late May in the following year. BEGIN APPLICATION NOW. Students must have taken the required courses, even if in a different plan of study, and must have a cumulative or math/science GPA of 3.0 minimum for a guaranteed interview with UNMC.
Additional Information About this Plan:

University Degree Requirements: The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

Placement Exams: For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php

**Transfer credit or placement exam scores may change suggested plan of study

Graduation Requirements: The B.S. in general science is offered with a concentration in medical laboratory science for students planning to apply to UNMC’s Medical Laboratory Science Program (MLS). This program was designed in collaboration with UNMC to allow a student to complete two bachelor's degrees in as little as 122 credits. Students will apply to UNO’s General Science program and add on the medical laboratory science concentration. Following the guide below allows the student to complete UNO’s general education requirements and UNMC’s MLS prerequisite coursework in no more than three years. Near the beginning of the student’s third year of UNO studies, they will need to apply to UNMC’s MLS program. Provided that the student has followed the curriculum, for example, as laid out above, maintained a cumulative or math/science GPA of 3.0, he/she will be guaranteed an interview with UNMC’s MLS program. Upon acceptance into UNMC’s MLS program, students will complete 11 months of studies in specific MLS courses. After completion of the MLS program at UNMC, students may transfer their UNMC coursework back to UNO to earn a dual degree of BS MLS from UNMC/BS GSCI-MLS concentration from UNO. Students must have a minimum of 30 credits in residence at UNO and of those, 15 credits must come from the natural and physical sciences.