

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 credit hours 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.

Code	Title	Credits
Biology Required Courses		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
Chemistry Required Courses		
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY	4
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY	4
Geology Required Course		
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4
Physics Required Courses 10		
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 and GENERAL PHYSICS LABORATORY I	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS II 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 5-6		
Select one of the following options:		
Option 1:		

MATH 1950 or MATH 1940	CALCULUS I CALCULUS FOR BIOMEDICINE	
Option 2:		
MATH 1930	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (and an approved statistics course)	
Electives		
Select 12 credits of electives at the 2000 level or higher in at least two of the following disciplines: biology, chemistry, physics, geology.		12
Total Credits		49-50

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.

Code	Title	Credits
BIOLOGY (21 credits)		
BIOL 1450	BIOLOGY I	5
BIOL 1750	BIOLOGY II	5
BIOL 2140	GENETICS	4
BIOL 2440	THE BIOLOGY OF MICROORGANISMS	4
BIOL 3240	INTRODUCTION TO IMMUNOLOGY	3
CHEMISTRY (14 credits)		
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY ¹	5
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY ²	5
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY	4
MATHEMATICS (4 credits)		
MATH 1300	COLLEGE ALGEBRA WITH SUPPORT (Not required if student has an ACT MATH subscore of 23+. In that case, students should consider taking MATH 1300 or higher as a part of the cognate coursework.)	4
STATISTICS (3 credits)		
Select one of the following:		
PSYC 3130	STATISTICS FOR THE BEHAVIORAL SCIENCES	3

STAT 3000	STATISTICAL METHODS I	3
PA/SOWK/CRCJ 3000	APPLIED STATISTICS AND DATA PROCESSING IN PUBLIC SECTOR	3
ENGLISH COMPOSITION (3 credits)		
ENGL 1160	ENGLISH COMPOSITION II ³	3
PUBLIC SPEAKING (3 credits)		
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS ARGUMENTATION AND DEBATE	3
HUMANITIES & FINE ARTS (9 credits)		
Three (3) Humanities & 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.		9
SOCIAL SCIENCES (6 credits)		
Two (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).		6
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	2
BIOL 1160	TERMINOLOGY OF HUMAN HEALTH & DISEASE	2
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II	4
Social Science of choice (3 credits)		3

¹ CHEM 1180-1184 and CHEM 1190-1194 may be substituted for CHEM 1140-1144.
² CHEM 2250 and CHEM 2260-2274 may be substituted for CHEM 2210-2214.
³ UNMC will accept ENGL 1150 or 1160 but UNO requires at least ENGL 1160 or placement beyond via Advanced Placement or EPPE.

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. Within the 43 credits of coursework transferring back to UNO, will be the Advanced Writing requirement for the UNO degree.

If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: GEOL 1170, PHYS 1110/PHYS 1154, 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.

General Science Bachelor of Science

Freshman

Fall		Credits
BIOL 1450	BIOLOGY I (*)	5
ENGL 1150	ENGLISH COMPOSITION I (**)	3
MATH 1930 or MATH 1940 or MATH 1950	CALCULUS FOR THE MANAGERIAL, LIFE, AND SOCIAL SCIENCES (***) or CALCULUS FOR BIOMEDICINE or CALCULUS I	3-5
Humanities and Fine Arts		3

*BIOL 1450: Requires high school biology and chemistry. College level chemistry recommended. This course will count as a Natural & Physical Science Lecture/Lab course as well as major requirement.

***MATH 1930 or MATH 1940: Requires MATH 1300, 1320, or higher with minimum grade of C-, or Math ACT sub-score of 25, or appropriate Math Placement Exam score within the last two years. If taking MATH 1950 as an alternative, it will require MATH 1300/1320 + MATH 1330 OR MATH 1340 (minimum grade of C-) OR proper placement via ACT Math sub-score or Math Placement Exam within the last two years. MATH 1930/1940/1950 are higher than the general education Math/QL requirement, so would count as that and the College of Arts and Sciences QL requirement for the Add'l Gen Eds, in addition to counting as a calculus course for the major. Please know that this major requires EITHER MATH 1930 + STAT 1530 OR MATH 1940/1950. If taking MATH 1930, students will also need to take STAT 1530 (or approved alternative) for this major. Taking MATH 1940 or 1950 will not require students to also take STAT 1530 for this major.

***MATH 1930 or MATH 1940: Requires MATH 1300, 1320, or higher with minimum grade of C-, or Math ACT sub-score of 25, or appropriate Math Placement Exam score within the last two years. If taking MATH 1950 as an alternative, MATH 1300/1320 + MATH 1330 OR MATH 1340 (minimum grade of C-) OR proper placement via ACT Math sub-score within the last two years will be required. This course is higher than the general education Math/QL requirement, so would count as that and the College of Arts and Sciences QL requirement for the Add'l Gen Eds, in addition to counting as a calculus course for the major. If taking MATH 1930, students will also need to take STAT 1530 (or approved alternative) for this major. Taking MATH 1940 or 1950 will not require students to also take STAT 1530 for this major.

	Credits	14-16
Spring		
BIOL 1750	BIOLOGY II (*)	5
ENGL 1160	ENGLISH COMPOSITION II (**)	3
STAT 1530	ELEMENTARY STATISTICS (***)	3
Social Science		3

*BIOL 1750: Requires BIOL 1450. This course counts as the A&S Add'l Gen Ed Natural & Physical Science Lec/Lab in addition to being a major requirement.

**ENGL 1160: Requires ENGL 1150 or appropriate placement via EPPE, AP scores or transfer credit.

***STAT 1530: Requires MATH 1210 or higher, a Math ACT sub-score of 19+, or appropriate Math Placement Exam score within the last two years. Students do not need to take STAT 1530 if MATH 1940 or MATH 1950 are chosen for the major's calculus requirement. If taking MATH 1940 or 1950, replace STAT 1530 this semester with another course from a later semester, chosen in consultation with your advisor.

	Credits	14
Sophomore		
Fall		
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
PHYS 1110 & PHYS 1154	GENERAL PHYSICS I and GENERAL PHYSICS LABORATORY I (*)	5
Social Science		3
Humanities and Fine Arts/US Diversity		3

*PHYS 1110: Requires MATH 1220, Math 1300 or higher.
 Also acceptable: Math ACT sub-score of 23+, or appropriate Math Placement Exam score. This course counts as the 2nd Natural & Physical Science gen ed. Taking PHYS 1154 is also required for the major.

		Credits	14
Spring			
GEOL 1170	INTRODUCTION TO PHYSICAL GEOLOGY	4	
PHYS 1120 & PHYS 1164	GENERAL PHYSICS II and GENERAL PHYSICS LABORATORY II (*)	5	
Social Science/Global Diversity**		3	
Humanities and Fine Arts***		3	
*PHYS 1120: Requires PHYS 1110			
**Social Science must come from a 2nd discipline.			
***Humanities and Fine Arts course must come from a 2nd discipline.			

		Credits	15
Junior			
Fall			
CHEM 1180 & CHEM 1184	GENERAL CHEMISTRY I and GENERAL CHEMISTRY I LABORATORY (*)	4	
ENGL 3980	TECHNICAL WRITING ACROSS THE DISCIPLINES (**)	3	
HIST 1000 or Course towards Minor/2nd Major***		3	
Advanced General Science Elective^		3	
BS Cognate Course#		3	
*CHEM 1180: See the catalog for the most up-to-date prerequisites. Must take CHEM 1184 concurrently.			
**ENGL 3980: Requires ENGL 1160 or appropriate placement via EPPE, AP scores or transfer credit.			
***A&S College Requirement Options.			
^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.			

		Credits	16
Spring			
CHEM 1190 & CHEM 1194	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LABORATORY (*)	4	
HIST 1010 or Minor/2nd Major Course**		3	
Advanced General Science Elective***		3	
BS Cognate Course^		3	
BS Cognate Course^		3	
*CHEM 1190: See the catalog for the most up-to-date prerequisites. Must take CHEM 1194 concurrently.			
**A&S College Requirement Options			
***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.			

Credits 16

Senior

Fall

Advanced General Science Elective*	3
Additional Humanities and Fine Arts Course for A&S or Course towards Minor/2nd Major**	3
Additional Social Science Course for A&S or Course towards Minor/2nd Major***	3
BS Cognate Course^	3
BS Cognate Course^	3
*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.	
**A&S College Requirement Options. Additional HFA must be in a 3rd discipline.	
***A&S College Requirement Options. Additional SS must be in a 3rd discipline.	
^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 120-122

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		Credits
BIOL 1450	BIOLOGY I (*)	5
ENGL 1160	ENGLISH COMPOSITION II (**)	3
MATH 1300	COLLEGE ALGEBRA WITH SUPPORT	4
BIOL 1060	INTRODUCTION TO MEDICAL CAREERS & ETHICS (for suggested cognate course [^])	2

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

**ENGL 1160: Requires appropriate placement via EPPE, ACT, 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, BIOL 1160, and a Social Science.

Credits 14

Spring

BIOL 1750	BIOLOGY II (*)	5
Humanities and Fine Arts		3
Social Science		3
Humanities and Fine Arts with U.S. Diversity		3

*BIOL 1750: Requires BIOL 1450

Credits 14

Sophomore

Fall		
BIOL 2440	THE BIOLOGY OF MICROORGANISMS (*)	4
CHEM 1140 & CHEM 1144	FUNDAMENTALS OF COLLEGE CHEMISTRY and FUNDAMENTALS OF COLLEGE CHEMISTRY LABORATORY (**)	5
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
Social Science/Global Diversity		3

*BIOL 2440: Requires high school biology and chemistry.

**CHEM: See the catalog for the most up-to-date prerequisites.

Credits 15

Spring

BIOL 2140	GENETICS (*)	4
CHEM 2210 & CHEM 2214	FUNDAMENTALS OF ORGANIC CHEMISTRY and FUNDAMENTALS OF ORGANIC CHEMISTRY LABORATORY (**)	5
Humanities and Fine Arts***		3
Elective/Minor Course/ Course toward parallel plan major [^]		3

*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.

***HFA #3 must come from a second discipline.

[^]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 1160	TERMINOLOGY OF HUMAN HEALTH & DISEASE (*)	2
BIOL 2740	HUMAN ANATOMY AND PHYSIOLOGY I	4
CHEM 3650 & CHEM 3654	FUNDAMENTALS OF BIOCHEMISTRY and FUNDAMENTALS OF BIOCHEMISTRY LABORATORY (**)	4
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	3

*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, BIOL 1160, and a Social Science.

**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.

Note: 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.

Credits 13

Spring

BIOL 2840	HUMAN ANATOMY AND PHYSIOLOGY II (*)	4
BIOL 3240	INTRODUCTION TO IMMUNOLOGY (**)	3
BS Cognate Course: Social Science of choice from 2nd discipline***		3
Elective/Minor course/ Course toward parallel plan major. [^]		3

*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, BIOL 1160, 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.	43
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If the student is not accepted to UNMC, the following will need to be added to complete the GSCI major: GEOL 1170, PHYS 1110-1154, 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	127

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.

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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 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, 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.