

Bachelor of Science—Biological Sciences

Accreditation

The program has been approved by the Northwest Commission on Colleges and Universities.

Mission Statement

The mission of the BS in Biological Sciences is to provide a high-quality student-centered bachelors program in the sciences to rural Nevada that 1) relates to the economic need within and outside our region for professionals in the biological sciences, 2) relates to the economic need within and outside our region for rural health and medical professionals through university transfer to medical and other professional programs, and 3) relates to the aspect of the GBC mission on university transfer by providing a biological sciences undergraduate degree for transfer to graduate school in biological sciences and related disciplines.

Student Learning Outcomes

- Communicate the nature of scientific knowledge and the scientific method and how they were developed.
- Associate biological structure and function.
- Relate molecular genetics and cell and organism function.
- Communicate the genetic relationships and evolution of organisms.
- Integrate the complexity of the metabolism of cells and organisms.
- Analyze the complex interplay of how organisms and populations respond to and interact with each other and their environment.
- Communicate effectively with regards to complex biological concepts, orally and in writing.
- Students will be able to meet professional goals. Specifically,
 - Fulfill graduate, medical, and other professional school entrance requirements including success on entrance exams.
 - Obtain employment needed in the region (federal and state agencies, industry, education) and beyond.
 - Obtain employment not linked to this degree or even science from analytical skills in this Bachelor of Science degree.

Program Description

Admission to Program

In order to be admitted to the program students must do both of the following:

- Complete an Associate of Science (AS) or Associate of Arts (AA) degree including the equivalent of ENG 102 from a regionally accredited institution.
- Complete the following courses (or their approved equivalents), most of which are prerequisites for upper division courses in the degree in a two-year rotation. BIOL 190, 191, 251; CHEM 121, 122, 241/241L, 242/242L; MATH 181, STAT 152, or equivalent. Completion of these courses before entering the biological sciences bachelor degree program facilitates completion of the BS in two years.

Students need to complete the application form for the BS in Biological Sciences to be formally admitted to the program. Applications are accepted any time; applications received on or before March 15 will be assigned the current catalog year while applications received after March 15 will be assigned to the following catalog year. The form is available online on the GBC Website. Go to www.gbcnv.edu and then go to Academics. Click on the B.S. in Biological Sciences link to access the form. Transfer students must provide official transcripts from all other accredited institutions attended to complete the application process. Applications must be complete to be processed.

Attendance in Science Courses for the BS Biological Sciences

The following science courses have labs and are required to be completed for the BS in Biological Sciences: BIOL 190, 191, 251; 300, 305, 331, 394, 410, 415 and 432; CHEM 121, 122, 241/241L, and 242/242L, Each of these courses have required in-person labs.

Depending on the course, the labs may occur weekly, on weekends, or at a time from Monday through Friday anytime from 8 a.m.–6 p.m.

Due to GBC's personnel, equipment, and facilities, courses listed above which have the CHEM prefix, and some BIOL courses (BIOL 331, for example) have required labs that are only offered on the Elko and Pahrump campuses.

This means that BS in Biological Sciences students will be required to attend lab courses in Elko or Pahrump at least 1-2 days each week and that this is not an online degree. Please consult your advisor for the BS in Biological Sciences for the availability details of each individual science course.

Maintaining Good Standing

- Students must maintain a GPA of 2.0 (cumulative) to remain in good standing in the program and to graduate.
- To graduate, students are also required to have a cumulative GPA of 2.0 for all upper division courses applied to the degree. This includes courses taken at GBC and those transferred from other institutions.
- Students must make progress toward the degree with no lapses exceeding three semesters.
- Students not meeting the above criteria may be dismissed from the program.

Academic Honesty

Students must comply with student conduct and academic honesty policies as described in the GBC catalog and NSHE Code; incidents of student misconduct and/or academic dishonesty will be reported the vice president for academic and student affairs and the appropriate biological sciences program supervisor. Disciplinary action may include a written warning, reprimand, college probation, suspension or expulsion from the biological sciences program. Disciplinary action can be imposed in any order depending on the seriousness of the misconduct. In the event a student's status changes to probationary, a plan of action will be created for reinstatement to the biological sciences. Failure to meet this action plan will result in expulsion from the program.

Prerequisite Requirements

Lower-Division Prerequisites, required to complete degree

BIOL	190	Introduction to Cell and Molecular Biology
BIOL	191	Introduction to Organismal Biology
BIOL	251	General Microbiology
CHEM	121	General Chemistry I
CHEM	122	General Chemistry II
CHEM	241	Organic Chemistry I
CHEM	241L	Organic Chemistry for Life Science Lab I
CHEM	242	Organic Chemistry II
CHEM	242L	Organic Chemistry for Life Science Lab II
MATH	181	Calculus I
STAT	152	Introduction to Statistics

Degree Requirements

Credits

General Education Requirements

Integrative Seminar—Capstone Outside of Major	3
Choose one for 3 credits.	
INT 339 Integrative Humanities Seminar or	
INT 349 Integrative Social Sciences Seminar	
Capstone Inside Major (Program Requirement)	
BIOL 415 Evolution	4

Program Requirements

BCH	400	Introductory Biochemistry	4
BIOL	300	Principles of Genetics	4
BIOL	305	Introduction to Conservation Biology	3
BIOL	315	Cell Biology	3
BIOL	331	Plant Taxonomy	3
BIOL	341	Principles of Ecology	3
BIOL	394	Laboratory in Ecology and Population Biology	2
BIOL	401	Biology Journal Seminar	1
BIOL	410	Plant Physiology	3
BIOL	320	Invertebrate Zoology, or	
BIOL	432	Herpetology, or	
BIOL	434	Mammalogy	4
BIOL	447	Advanced Comparative Animal Physiology	3
GEOL	101	Exploring Planet Earth	4
NRES	432	Advanced Environmental Toxicology	3
Physics			8

Choose one of the physics series listed below for 8 credits total. Note: physics for scientists and engineers, including PHYS 182 Physics for Scientists and Engineers III, a lower division elective, is recommended for students planning on pursuing biological fields of study related to physical sciences.

PHYS	151	General Physics, and
PHYS	152	General Physics II, or
PHYS	180	Physics for Scientists and Engineers I, and
PHYS	181	Physics for Scientists and Engineers II

Program Electives 0-5

Variable credits: associate degree and/or transfer credits may be applied.

9 credits from the following list required for graduation:

BIOL	223	Human Anatomy and Physiology I
BIOL	224	Human Anatomy and Physiology II
CHEM	100	Molecules and Life in the Modern World
CIT	129	Introduction to Programming
ENV	100	Humans and the Environment
GEOG	103	Physical Geography
GEOL	102	Earth and Life Through Time
MATH	127	Precalculus II, or
MATH	128	Precalculus and Trigonometry
MATH	182	Calculus II
PHYS	182	Physics for Scientists and Engineers III

Courses not from this list may be approved on a case-by-case basis by the BS in Biological Sciences degree committee.

Total credits required for Bachelor of Science in Biological Sciences.....120

All students must satisfy the ENG 102 and U.S. and Nevada Constitutions requirements if not completed as part of their associate's degree.

SUGGESTED 4 YEAR PLAN OF STUDY
(Refer to page 87)
BS—Biological Sciences

FALL—1st Semester		Credits
BIOL	190	4
CHEM	121	4
ENG	100 or 101	3
MATH	181	4
TOTAL		15

SPRING—2nd Semester		Credits
BIOL	191	4
CHEM	122	4
ENG	102	3
FINE ARTS*		3
STAT	152	3
TOTAL		17

FALL—3rd Semester		Credits
CHEM	241	3
CHEM	241L	1
CIS 135 or GIS 109		3
HUMANITIES*		3
ORAL COMMUNICATIONS*		3
AMERICAN CONSTITUTIONS AND INSTITUTIONS*		3
TOTAL		16

SPRING—4th Semester		Credits
CHEM	242	3
CHEM	242L	1
BIOL	251	4
PROGRAM ELECTIVE**		3
STRUCTURE OF SOCIETIES*		3
TOTAL		14

FALL—5th Semester		Credits
BIOL	300	4
BIOL	320 or 432 or 434	4
GEOL	101	3
PHYS	151 or 180	4
TOTAL		15

SPRING—6th Semester		Credits
BIOL	315	3
BIOL	401	3
BIOL	410	3
NRES	432	3
PHYS	152 or 181	4
TOTAL		16

FALL—7th Semester		Credits
BIOL	305	3
BIOL	341	3
BIOL	394	2
BIOL	447	3
LOWER-DIVISION ELECTIVE**		2
TOTAL		13

SPRING—8th Semester		Credits
BCH	400	4
BIOL	331	3
BIOL	415	4
INT	339 or 349	3
TOTAL		14

Minimum Credits: 120

***Select from page 82**

****Choose with an advisor**

