

BIOLOGY: BIOMEDICAL SCIENCES CONCENTRATION, BACHELOR OF SCIENCE

Expected Student Outcomes

- Students will develop a broad-based knowledge of concepts and terminology in molecular, cellular, organismal, and ecological biology.
- Students will develop applied scientific skills through field and laboratory experience and data analysis.
- Students will develop skills in reading and interpreting the scientific literature and in presenting a synthesis of it accurately in oral and written form.
- Students will demonstrate critical thinking and problem solving skills using experimental design and the scientific method.

Outcomes Assessment Activities

Assessment of students' improvement in intellectual skills, knowledge and capacities from entrance to graduation will be accomplished through the use of several tools. Exams and course assignments will be used as one measure of the student's proficiency in writing skills, acquisition of knowledge, communication, problem solving and laboratory skills. All majors will take a Senior Seminar that requires scientific literature interpretation along with oral and written presentations evaluated by peers and department faculty. Seniors will also take the Biology Major Field Test, which measures Colorado State University Pueblo students' content knowledge and analytical skills against national norms.

Specific Program Requirements

- Students majoring in biology must receive a grade of C or better (2.000) in all core biology courses.
- Students graduating with a BS in biology must have at least a cumulative GPA of 2.000 in the major area. A cumulative GPA of 2.600 in the major area is required for admission to the teacher education program.
- Transfer students are required to earn a minimum of 15 semester credit hours in approved Biology upper division courses from CSU-Pueblo, including BIOL 493 Seminar (1 c.h.), for graduation with a BS degree in Biology.
- A maximum of 6 semester credit hours of approved upper division CHEM courses may be applied towards approved upper division biology electives.
- A maximum of 6 semester credit hours of approved upper division WANR courses may be applied towards approved upper division biology electives.
- Graduates are encouraged to complete a minor outside the biology department.

Specific Core Requirements

| Course | Title | Credits |
|-----------------|---|---------|
| BIOL 171 | First Year Seminar | 1 |
| BIOL 181 & 181L | College Biology I/Organismal Bio (GT-SC2) and College Biology I/Organismal Bio Lab (GT-SC1) | 4 |
| BIOL 182 & 182L | College Biology II/Cellular Biology (GT-SC2) and College Biology II/Cellular Bio Lab (GT-SC1) | 4 |

| | | |
|---|---|-----------|
| BIOL 301 & 301L | General Microbiology and General Microbiology Lab | 5 |
| BIOL 350 | Mendelian and Population Genetics | 2 |
| BIOL 351 | Molecular Biology and Genetics | 2 |
| BIOL 352 | Evolutionary Biology and Ecology | 3 |
| BIOL 493 | Seminar | 1 |
| Select one of the following two organismal courses: | | 4 |
| BIOL 201 & 201L | Botany (GT-SC2) and Botany Laboratory (GT-SC1) | 4 |
| BIOL 202 & 202L | Zoology and Zoology Laboratory | 4 |
| Select one of the following three physiology courses: | | 4 |
| BIOL 412 & 412L | Cellular Biology and Cellular Biology Lab | 4 |
| BIOL 413 & 413L | Plant Physiology and Plant Physiology Lab | 4 |
| BIOL 414 & 414L | Vertebrate Physiology and Vertebrate Physiology Lab | 4 |
| Total Credits | | 30 |

Specific Concentration Requirements

This concentration includes pre-professional programs: Chiropractic, Dental, Medical, Medical Laboratory Science, Occupational Therapy, Pharmacy, Physical Therapy, Physician Assistant, and Veterinary Medicine.

See Basic Biology Concentration above and consult with academic advisor for other requirements. Electives vary with professional area.

Students seeking to major in Nutrition can complete five terms of coursework at CSU Pueblo. Articulation agreements are in place for transfer to undergraduate programs in Nutrition.