Bachelor of Arts: Biology - Biomedical (84M)
2019-2020
58 hours

This emphasis of the biology major offers preparation for allopathic, osteopathic, chiropractic, dental, veterinary, optometric, pediatric and other health-related programs. In addition, it prepares students for the graduate study in biomedical sciences, i.e., pharmacology, toxicology, pathology, physiology, cellular biology, and related areas. The combination of required and elective courses needs to equal to minimum of 58 credit hours.

**Introductory Track**
- BION2051 Gen Bio: Organisms Diversity, 4 hrs
- BION2052 Gen Bio: Cell Structure & Function, 4 hrs
- BION3100 Evolution, Ecology & the Nature of Science, 3 hrs
- BION3140 Genetics, 4 hrs

**Required Chemistry**
- CHEM1110 General Chemistry I, 4 hrs
- CHEM1120 General Chemistry II, 4 hrs

**Required Advanced Chemistry Courses**
- CHEM2210 Organic Chemistry I, 3 hrs
- CHEM2220 Organic Chemistry II, 3 hrs
- CHEM2230 Organic Chemistry Lab, 2 hrs

**Required Math** (chose one option)
1. MATH1120 Mathematics for the Biological Sciences, 3 hrs
   **AND** MATH1130 Trigonometry, 2 hrs
2. MATH1140 Pre-calculus, 4 hrs
3. MATH1420 Calculus I, 4 hrs

**Required Physics**
- PHYSICS1511 General Physics I, 4 hrs
- PHYSICS1512 General Physics II, 4 hrs

**Required Anatomy** (choose one course)
- BION3106 Vertebrate Anatomy, (Fall/Spring), 4 hrs
- BION4164 Developmental Biology of Animals, (Fall/Spring), 4 hrs
- BION4172 Developmental Plant Anatomy, (Fall), 4 hrs

**Required Physiology** (choose one course)
- BION4114 Comparative Animal Physiology (Even Falls), 4 hrs
- BION4122 Plant Physiology (Spring), 4 hrs
- BION4137 Vertebrate Physiology (Odd Falls), 4 hrs

**Required Cellular** (choose one course)
- BION4128 Cell Biology, (Spring), 4 hrs
- BION4146 Developmental Biology of Animals (Fall/Spring), 4 hrs
- BION4150 Immunology, (Fall/Spring), 4 hrs

**Major Elective Courses** (*2-6 hours to total 58)
- BION3102 Anatomy & Physiology II (Fall/Spring), 4 hrs
- BION3106 Vertebrate Anatomy (Fall/Spring), 4 hrs
- BION3147 Cancer and Emerging Infectious Disease (Spring), 3 hrs
- BION3151 General Microbiology (Fall/Spring), 4 hrs
- BION3160 Field Zoology of Vertebrates (Spring), 4 hrs
- BION3170 Entomology (Even Falls), 3 hrs
- BION3190 UG Research, 1-3 hrs
- BION4114 Comparative Animal Physiology (Even Falls), 4 hrs
- BION4116 Neurobiology (Spring), 3 hrs
- BION4122 Plant Physiology (Spring), 4 hrs
- BION4128 Cell Biology (Spring), 4 hrs
- BION4137 Vertebrate Physiology (Odd Falls), 4 hrs
- BION4142 Evolutionary Biology (Spring), 3 hrs
- BION4144 Virology (Even Springs), 4 hrs
- BION4146 Developmental Biology of Animals (Fall/Spring), 4 hrs
- BION4150 Immunology (Fall/Spring), 4 hrs
- BION4152 Microbial Molecular Genetics (Odd Springs), 4 hrs
- BION4153 Recombinant DNA Techniques (Even Falls), 4 hrs
- BION4157 Biostatistics (Fall), 3 hrs
- BION4164 Mammalogy (Fall), 4 hrs
- BION4168 Ecology (Fall), 4 hrs
- BION4172 Developmental Plant Anatomy (Fall), 4 hrs
- CHEM4510 Biochemistry I (Fall/Spring), 3 hrs

**NOTES:**
- Must have both a UNI cumulative and a UNI major/plan GPA of 2.50 or higher, with a grade of C-(1.67) or higher in all courses that are applied to the major.
- At least 4 credits of biology electives at the 4000 level need to be taken at UNI.
- Each course can only count once in the 58 credit major requirements.
- If *CHEM 1130 General Chemistry I-II, 5 hrs, is taken, then 3 additional biology electives are required to reach a 58 credit major.
- Students invited to do Honors Research will complete 4 credit hours of BION3190 Undergraduate Research and 1 credit hour of BION3191 Senior Thesis. Students must declare the HONORS EMPHASIS in order for it to reflect on the degree audit/transcript.