Bachelor of Arts: Biology - Biomedical (84M)

58-62 hours

This emphasis of the biology major offers preparation for allopathic, osteopathic, chiropractic, dental, veterinary, optometric, podiatric 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 equal 58-62 credit hours.

Introductory Track—15 hrs
- BIOL2051 Gen Bio: Organismal Diversity, 4 hrs
- BIOL2052 Gen Bio: Cell Structure & Function, 4 hrs
- BIOL3100 Evolution, Ecology & the Nature of Science, 3 hrs
- BIOL3140 Genetics, 4 hrs

Required Chemistry*—5-8 hrs
- CHEM1110 General Chemistry I, 4 hrs
- CHEM1120 General Chemistry II, 4 hrs

OR
- CHEM1130 General Chemistry I-II, 5 hrs

Required Advanced Chemistry Courses—8 hrs
- CHEM2210 Organic Chemistry I, 3 hrs
- CHEM2230 Organic Chemistry Lab, 2 hrs
- CHEM2220 Organic Chemistry II, 3 hrs

Required Math (chose one option)—4-5 hrs
1. MATH1120 Mathematics for the Biological Sciences, 3 hrs
   AND MATH1130 Trigonometry, 2 hrs

OR
2. MATH1140 Pre-calculus, 4 hrs

OR
3. MATH1420 Calculus I, 4 hrs

Required Physics—8 hrs
- PHYSICS1511 General Physics I, 4 hrs
- PHYSICS1512 General Physics II, 4 hrs

Required Biology—8 hrs
- BIOL3101 Anatomy and Physiology I, 4 hours (Fall, Spring Summer)
- BIOL3102 Anatomy and Physiology II, 4 hours (Fall, Spring Summer)

OR
- BIOL3106 Vertebrate Anatomy (Spring), 4 hrs
- BIOL3102 Anatomy and Physiology II, 4 hours (Fall, Spring Summer)

Major Elective Courses (*10 hours of electives, including at least 7 of BIOL 4XXX)
- BIOL3106 Vertebrate Anatomy (Spring), 4 hrs—if not used in place of Anatomy and Physiology I
- BIOL3108 Histology (Odd Springs), 4 hrs
- BIOL3147 Cancer and Emerging Infectious Disease (Spring), 3 hrs
- BIOL3151 General Microbiology (Fall, Spring), 4 hrs
- BIOL3190 Undergraduate Research, 1-3 hrs
- BIOL4114 Comparative Animal Physiology (Even Falls), 4 hrs
- BIOL4116 Neurobiology (Spring), 3 hrs
- BIOL4128 Cell Biology (Spring), 4 hrs
- BIOL4129 Genomics (Even Falls), 4 hrs
- BIOL4137 Vertebrate Physiology (Odd Falls), 4 hrs
- BIOL4144 Virology (Even Springs), 4 hrs
- BIOL4146 Developmental Biology of Animals (Fall), 4 hrs
- BIOL4150 Immunology (Fall, Spring), 4 hrs
- BIOL4157 Biostatistics (Fall), 3 hrs
- BIOL4164 Mammalogy (Fall), 4 hrs
- CHEM4510 Biochemistry I, 3 hrs**

Recommended LAC:
- STAT 1772 Statistics (LAC 1C), 3 hrs
- SOC1000 Introduction to Sociology (LAC 5A), 3 hrs
- PSYCH1001 Introduction to Psychology, (LAC 5B), 3 hrs

Other Recommended:
- HPE 2160 Medical Terminology, 2 hrs
- Additional psychology courses

NOTES:
- Must have both a UNI cumulative and a UNI major/plan GPA of 2.00 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.
- Students invited to do Honors Research will complete 4 credit hours of BIOL3190 Undergraduate Research and 1 credit hour of BIOL3191 Senior Thesis. Students must declare the HONORS EMPHASIS in order for it to reflect on the degree audit/transcript.
- **For students pursuing graduate programs in allopathic or osteopathic medicine, physician assistant, or veterinary medicine, completion of the Biochemistry I and Biochemistry II is recommended and would satisfy a Chemistry minor in addition to the BA Biology Biomedical degree.

Total cognates and required biology = 48-52 hrs