

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 (choose 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)

Total cognates and required biology = 48-52 hrs

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), 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
- ___ SOC 1000 Introduction to Sociology (LAC 5A), 3 hrs
- ___ PSYCH1001 Introduction to Psychology (LAC 5B), 3 hrs
- ___ SOC SCI 1045 American Racial & Ethnic Minorities (LAC 5C), 3 hrs

Other Recommended:

- ___ HPE 2160 Medical Terminology, 2 hrs
- ___ Additional psychology courses
- ___ CHEM 4520 Biochemistry II, 3 hrs.** (see note below)
- ___ PH 3330 Minority Health, 3 hrs

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.