

# 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, 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 needs to equal of minimum of 58 credit hours.

## Introductory Track

- \_\_\_ 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\*

- \_\_\_ 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 (choose one option)

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

- \_\_\_ PHYSICS1511 General Physics I 4 hrs
- \_\_\_ PHYSICS1512 General Physics II 4 hrs

## Required Anatomy (choose one course)

- \_\_\_ BIOL3106 Vertebrate Anatomy, (Fall/Spring) 4 hrs
- \_\_\_ BIOL4146 Developmental Biology of Animals, (Fall/Spring) 4 hrs
- \_\_\_ BIOL4172 Developmental Plant Anatomy, (Fall) 4 hrs

## Required Physiology (choose one course)

- \_\_\_ BIOL4114 Comparative Animal Physiology (Even Falls), 4 hrs
- \_\_\_ BIOL4122 Plant Physiology, (Spring) 4 hrs
- \_\_\_ BIOL4137 Vertebrate Physiology, (Odd Falls) 4

## Required Cellular (choose one course)

- \_\_\_ BIOL4128 Cell Biology, (Spring) 4 hrs
- \_\_\_ BIOL4146 Developmental Biology of Animals (Fall/Spring) 4 hrs
- \_\_\_ BIOL4150 Immunology, (Fall/Spring) 4 hrs

## Major Elective Courses (\*2-6 hours to total 58)

- \_\_\_ BIOL3102 Anatomy & Physiology II (Fall/Spring), 4 hrs
- \_\_\_ BIOL3106 Vertebrate Anatomy (Fall/Spring), 4 hrs
- \_\_\_ BIOL3147 Cancer and Emerging Infectious Disease (Spring), 3 hrs
- \_\_\_ BIOL3151 General Microbiology (Fall/Spring), 4
- \_\_\_ BIOL3160 Field Zoology of Vertebrates (Spring), 4 hrs
- \_\_\_ BIOL3170 Entomology (Even Falls), 3 hrs
- \_\_\_ BIOL3190 UG Research, 1-3 hrs
- \_\_\_ BIOL4114 Comparative Animal Physiology (Even Falls), 4 hrs
- \_\_\_ BIOL4116 Neurobiology (Spring), 3 hrs
- \_\_\_ BIOL4122 Plant Physiology (Spring), 4 hrs
- \_\_\_ BIOL4128 Cell Biology (Spring), 4 hrs
- \_\_\_ BIOL4137 Vertebrate Physiology (Odd Falls), 4 hrs
- \_\_\_ BIOL4142 Evolutionary Biology (Spring), 3 hrs
- \_\_\_ BIOL4144 Virology (Even Springs), 4 hrs
- \_\_\_ BIOL4146 Developmental Biology of Animals (Fall/Spring), 4 hrs
- \_\_\_ BIOL4150 Immunology (Fall/Spring), 4 hrs
- \_\_\_ BIOL4152 Microbial Molecular Genetics (Odd Springs), 4 hrs
- \_\_\_ BIOL4153 Recombinant DNA Techniques (Even Falls), 4 hrs
- \_\_\_ BIOL4157 Biostatistics (Fall), 3 hrs
- \_\_\_ BIOL4164 Mammology (Fall), 4 hrs
- \_\_\_ BIOL4168 Ecology (Fall), 4 hrs
- \_\_\_ BIOL4172 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 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.