BIOLOGY COMPREHENSIVE, BACHELOR OF SCIENCE

Offered by Department of Biology (http://catalog.unk.edu/undergraduate/departments-programs/biology/)

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**General Studies**

*Foundational Requirements (LOPERS 1-4) including:* 12

Including:

LOPER 4: Mathematics, Statistics, and Quantitative Reasoning

MATH 103 Plane Trigonometry

*Broad Knowledge Requirements (LOPERS 5-8)*: 13

Including:

LOPER 7 (Social Science)

For the Wildlife Emphasis ONLY take:

ECON 100 Contemporary Economic Issues

LOPER 8 (Natural Science)

BIOL 105 Biology I

*Dispositional Requirements (LOPERS 9-10)*: 6

Wellness (LOPER 11) Optional: 0

**Program-Specified Requirements**: 4

BIOL 106 Biology II

**BS Science-related course requirements**: 8

CHEM 160 General Chemistry

& 160L General Chemistry Laboratory

CHEM 161 General Chemistry

& 161L General Chemistry Laboratory

**Major Option**

Complete all required courses: 44-60

**Unrestricted electives**

Needed to reach 120 credit hour minimum: 17-33

**Total Credit Hours**: 120

A minimum 2.5 GPA is required in all courses counting toward this major.

**Major Option**

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**Biology Comprehensive Core Requirements**

BIOL 231 Research Methods I

BIOL 290 Evolution

BIOL 305 BioStatistics

BIOL 360 Genetics

Select 2 credit hours of the following:

BIOL 421 Seminar in Biology

or

BIOL 431A Research Methods IIA

AND

BIOL 431B Research Methods IIB

**Biology Emphasis Requirements**

Select one of the following:

General Emphasis (p. 1)

Wildlife Emphasis (p. 2)

Health Sciences Emphasis (p. 2)

**Total Credit Hours**: 44-60

**General Emphasis**

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**Required Courses**

Take all of the following: 13-18

BIOL 307 Ecology

PHYS 205 General Physics I & 205L and Physics I Laboratory

Select one of the following:

CHEM 250 Elementary Organic Chemistry & 250L and Elementary Organic Chemistry Laboratory

or

CHEM 360 Organic Chemistry & 360L and Organic Chemistry Laboratory

and

CHEM 461 Organic Chemistry & 461L and Organic Chemistry Laboratory

**Field Electives**

Select 6-9 credit hours of the following: 6-9

BIOL 330 Wildlife Conservation

BIOL 405 Range and Wildlife Management

BIOL 406 Plant Ecology

BIOL 418 Plant Taxonomy

BIOL 435 Herpetology

BIOL 462 Animal Behavior

BIOL 470 Insect Biology

BIOL 472 Ichthyology

BIOL 473 Ornithology

BIOL 474 Mammalogy

**Laboratory Electives**

Select 6-9 credit hours of the following: 6-9

BIOL 211 Human Microbiology

BIOL 215 Human Physiology

BIOL 225 Anatomy and Physiology

BIOL 226 Anatomy and Physiology

BIOL 301 Introduction to Soils

BIOL 309 Cellular & Molecular Biology

BIOL 401 Principles of Immunology

BIOL 403 Plant Physiology

BIOL 404 Developmental Biology

BIOL 416 Plant Diversity and Evolution

BIOL 440 Infectious Diseases

BIOL 450 Advanced Molecular Biology

BIOL 465 Physiology

Select one of the following: 4

CHEM 301 Analytical Chemistry & 301L and Analytical Chemistry Laboratory
### Biology Comprehensive, Bachelor of Science

- **Wildlife Emphasis**
- **Required Courses**
  - BIOL 213: Introduction to Fish and Wildlife Management (2 hours)
  - BIOL 307: Ecology (3 hours)
  - BIOL 330: Wildlife Conservation (3 hours)
  - BIOL 405: Range and Wildlife Management (3 hours)
  - BIOL 418: Plant Taxonomy (3 hours)
  - Select one of the following: (3 hours)
    - BIOL 409: Biological Studies using GIS
    - GEOG 417: GIScience Principles and Concepts
    - GEOG 418: Working with GIScience and Spatial Analysis

- **Botany**
  - Select 2 courses from the following: (6 hours)
    - BIOL 403: Plant Physiology
    - BIOL 406: Plant Ecology
    - BIOL 416: Plant Diversity and Evolution

- **Zoology**
  - Select 2 courses from the following: (6 hours)
    - BIOL 435: Herpetology
    - BIOL 470: Insect Biology
    - BIOL 472: Ichthyology
    - BIOL 473: Ornithology
    - BIOL 474: Mammalogy

- **Human Dimensions**
  - Take one course from the following: (3 hours)
    - BIOL 311: Bioethics
    - BIOL 426: Human Dimensions of Wildlife and Fisheries
    - ECON 442: Wildlife and Fisheries Laws and Policies
    - PSCI 332: Environmental Politics & Policy

- **Other Electives**
  - Take 3 courses from the following: (9 hours)
    - BIOL 301: Introduction to Soils
    - BIOL 309: Cellular & Molecular Biology
    - BIOL 403: Plant Physiology (This course can only count in one area.)
    - BIOL 404: Developmental Biology
    - BIOL 406: Plant Ecology (This course can only count in one area.)
    - BIOL 409: Biological Studies using GIS (This course can only count in one area.)
    - BIOL 416: Plant Diversity and Evolution (This course can only count in one area.)
    - BIOL 430: Special Topics in Biology

- **Health Sciences Emphasis**

  - **Physiology**
    - Select one of the following:
      - BIOL 215: Human Physiology
      - BIOL 225: Anatomy and Physiology

  - **Microbiology**
    - BIOL 211: Human Microbiology

  - **Cellular and Molecular Biology**
    - BIOL 309: Cellular & Molecular Biology

  - **Biology**
    - Select 5 credit hours of the following:
      - BIOL 311: Bioethics
      - BIOL 325: Medical Terminology (This course can only count in one area.)
      - BIOL 401: Principles of Immunology

- **Total Credit Hours**: 41

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**Wildlife Emphasis**

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**Botany**

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<tr>
<td>BIOL 403</td>
<td>Plant Physiology</td>
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<td>Plant Ecology</td>
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**Zoology**

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**Human Dimensions**

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**Other Electives**

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<td>Cellular &amp; Molecular Biology</td>
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<td>BIOL 403</td>
<td>Plant Physiology (This course can only count in one area.)</td>
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<td>BIOL 404</td>
<td>Developmental Biology</td>
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<td>BIOL 416</td>
<td>Plant Diversity and Evolution (This course can only count in one area.)</td>
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<td>BIOL 430</td>
<td>Special Topics in Biology</td>
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**Total Credit Hours**: 41

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**Health Sciences Emphasis**

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<td>Medical Terminology (This course can only count in one area.)</td>
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<td>BIOL 401</td>
<td>Principles of Immunology</td>
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<td>Infectious Diseases</td>
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<td>BIOL 450</td>
<td>Advanced Molecular Biology</td>
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<td>BIOL 461</td>
<td>Human Genetics</td>
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<tr>
<td>BIOL 465</td>
<td>Physiology (This course can only count in one area.)</td>
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**Supporting Courses**

20-25

Take one of the following Organic Chemistry options:

- CHEM 250 & 250L: Elementary Organic Chemistry and Elementary Organic Chemistry Lab
- CHEM 360 & 360L: Organic Chemistry and Organic Chemistry Laboratory

and

- CHEM 361 & 361L: Organic Chemistry and Organic Chemistry Laboratory

Take the following Physics courses:

- PHYS 205 & 205L: General Physics I and Physics I Laboratory

Take the following Biochemistry courses:

- CHEM 351 & 351L: Biochemistry and Biochemistry Lab

Take one of the following advanced Anatomy/Physiology courses:

- BIOL 465: Physiology (This course can only count in one area.)
- PE 459: Special Topics Gross Anatomy
- PE 460: Gross Anatomy of Movement

Select 3 credit hours of the following:

- BIOL 110: Introduction to Epidemiology
- BIOL 325: Medical Terminology (This course can only count in one area.)
- CHEM 352 & 352L: Biochemistry II and Biochemistry II Lab
- ECON 410: Health Care Economics
- PE 108: Introduction to Nutrition
- HSCI 225: Introduction to Hematology
- HSCI 300: Seminar in Health Sciences
- MGT 450: Health Care Delivery: Systems and Policies
- PSY 440: Health Psychology
- SOC 275: Social Psychology
- SOC 462: Sociology of Health and Illness
- SPAN 103: Spanish for Special Purposes

**Total Credit Hours**: 41-46

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1. The Biology degree, General Emphasis and Health Science Emphasis require a minimal mathematical competency at the level of trigonometry. Students with sufficient preparation may enter the mathematics program at a higher level, reducing the total credit hours needed. **See advisor for math placement.**