Program: Biology  
Major: Biology-Biomedical Sciences  
Degree: Bachelor of Science (B.S.)

University Core  (Total Listed 42-44)

For a full list of courses see University Core.

- Courses from the major may apply to the areas marked in the University Core.

Written and Oral Communication ................................................. 9
Quantitative Reasoning/Scientific Method ................................. 10-11
  - Math ........................................ 3
  - Life Science ........................................ 4
  - Physical Science ........................................ 3-4
Critical Inquiry and Aesthetic Analysis ................................. 6
  Aesthetic Analysis ........................................ 3
  Critical Inquiry ........................................ 3

Support Courses ................................................................. 0-6

Students majoring in Biology-Biomedical Sciences are encouraged to complete the following courses in high school.

Two years of high school algebra and one year of Trigonometry OR
  MATH  1453  Applied Algebra OR
  MATH  1513  College Algebra AND
  MATH  1593  Plane Trigonometry

Major Requirements ............................................................. 73

Biology Core ................................................................. 20
Required courses:
  BIO  1204  Biology for Majors: Principles
  BIO  1225  Biology for Majors: Diversity
  BIO  2203  Cell Biology
  BIO  2211  Cell Biology Laboratory
  BIO  3054  Microbiology for Majors and Lab
  BIO  3303  Genetics
  *BIO  4840  Capstone

Mathematics ................................................................. 6
Required courses:
  MATH  2153  BioCalculus
  STAT  2103  Intro Statistics for Sciences

Chemistry ................................................................. 15
Required courses:
  CHEM  1103  General Chemistry I
  CHEM  1112  General Chemistry I - Recitation/Lab
  CHEM  1223  General Chemistry II
  CHEM  1232  General Chemistry II - Recitation/Lab
  CHEM  3303  Organic Chemistry I OR
  CHEM  3013  Organic Chemistry for Life Sciences
  CHEM  3312  Organic Chemistry I Lab OR
  CHEM  3022  Organic Chemistry for Life Sciences Lab

Physics ................................................................. 4
Required course:
  PHY  1114  General Physics I and Lab

American Historical and Political Analysis ........................................ 6
  American National Government ........................................ 3
  American History ........................................ 3

Cultural and Language Analysis ........................................... 3-4
  Second Language ........................................ 4
  OR
  Cultural Analysis ........................................ 3

Social and Behavioral Analysis ............................................. 3

Life Skills ................................................................. 5
  Required Health Course ........................................ 2
  Elective Life Skills ........................................ 3

**Guided Electives ............................................................ 28

Selected from the following:
  BIO  3254  Comparative Vertebrate Anatomy and Lab
  BIO  3311  Intro to Genetics Lab Methods
  BIO  3414  Histology and Lab
  BIO  3703  Evolution
  BIO  3803  Mammalian Physiology I
  BIO  3813  Mammalian Physiology II
  BIO  4134  Developmental Biology and Lab
  BIO  4264  Mammalogy & Lab
  BIO  4334  Environmental Microbiology & Lab
  BIO  4343  Molecular Biology Techniques & Lab
  BIO  4414  Virology and Lab
  BIO  4454  Molecular Cell Physiology & Lab
  BIO  4504  Mycology & Lab
  BIO  4515  Pathogenic Micro and Immunology & Lab
  BIO  4622  Methods of Human Dissection & Prosection
  BIO  4743  Population Genetics & Lab
  BIO  4763  Biology of Cancer
  BIO  4774  Parasitology and Lab
  CHEM  3323  Organic Chemistry II
  CHEM  3332  Organic Chemistry II Lab
  CHEM  3403  Biochemistry I
  CHEM  4103  Biochemistry II
  PHY  1214  General Physics II and Lab

*A maximum of 2 credit hours from the following list of capstone courses may apply toward the 28 credit hours of guided electives.

  BIO  3000  Workshop in Biology
  BIO  3990  Advanced Topics in Biology
  BIO  4012  Intro to Biological Research
  BIO  4871  Senior Seminar
  BIO  4900  Practicum in Biology
  BIO  4920  Workshop in Biology

- CONTINUED ON NEXT PAGE -
Program: Biology - continued
Major: Biology-Biomedical Sciences
Degree: Bachelor of Science (B.S.)

**Minimum Required Hours**

- CONTINUED FROM PREVIOUS PAGE -

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 4930</td>
<td>Individual Study in Biology</td>
</tr>
<tr>
<td>BIO 4950</td>
<td>Internship in Biology</td>
</tr>
<tr>
<td>BIO 4960</td>
<td>Institute in Biology</td>
</tr>
<tr>
<td>BIO 4970</td>
<td>Study Tour in Biology</td>
</tr>
</tbody>
</table>

*To enroll in a Capstone Experience, students must complete a minimum of 60 credit hours. This 0 credit hour course is designed to be taken in conjunction with a capstone experience. Capstone experiences may include the above courses, or special projects in biology. Special projects include but are not limited to independent research, service learning, professional school applications, or other equivalent experiences as approved by the Capstone Coordinator. Approval of the Capstone Coordinator is required before starting any capstone experience. A reflective writing piece, which must receive a passing score, will be required for all capstones.

**Minimum hours required ...................... 125***

*Total hours required for this major may exceed the minimum 124 credit hour institutional requirement and will vary according to course selection. It is recommended students complete high school algebra II, trigonometry, physics, and two years of a second language in high school. Graduating seniors must take a national assessment exam in Biology as a graduation requirement for the B.S. in Biology-Biomedical Sciences.

**Minimum Grade Requirements**

1. Average in (a) all college course work, (b) course work at UCO, and (c) major courses.............................................................. 2.00

2. A minimum grade of “C” must be earned in all courses in the major to count toward meeting degree requirements.

**For other regulations pertaining to graduation, see Academic Degree Requirements.**

**Students accepted to graduate medical and allied health professional schools (e.g. Chiropractic, Dentistry, Medicine, Optometry, Osteopathic Medicine, Pharmacy, Veterinary Medicine) prior to completing this degree will be allowed to transfer a maximum of 30 credit hours from the first year of medical course work toward the guided electives and electives included in this degree.

To be eligible, students must have successfully completed the following minimum requirements from UCO before matriculation into the professional program: 1) 94 credit hours total; 2) 30 credit hours in residence at UCO; 3) 15 upper division credit hours in the major; 4) 50% of the total major credit hours; and 5) all regular degree requirements, including general education. (Students must apply for their bachelor’s degree within two years of completing their UCO work, but no later than graduation from medical school.)