

The Applied Biology major focuses on the practical uses of basic biological information within two thematic concentrations: Environmental Biology and Human Biology & Health Sciences. A biological sciences major provides opportunities for students to study the building blocks of life as they take classes in evolution, genetics, microbiology, plant biology and zoology. Completing this major earns you professional certifications and will prepare you to be a professional biologist.

## RECOMMENDED FOUR-YEAR PLAN

### First Year

<i>First Semester • 15 - 16 Credit Hours</i>	<i>Second Semester • 15 Credit Hours</i>
<b>ENG 111</b> English Composition (3)	<b>BIO 116</b> Biological Concepts: Structure, Function, Cellular and Molecular Biology (4)
<b>BIO 115</b> Biological Concepts: Eco, Evo, Genetics and Diversity (4)	<b>CHM 142</b> College Chemistry II (3)
<b>CHM 141/R</b> College Chemistry I (3-4)	<b>CHM 145</b> College Chemistry II Lab (2)
<b>CHM 144</b> College Chemistry I Lab (2)	<b>MTH 151</b> Calculus I (5) or <b>STA 261</b> Statistics (4)
<b>PA</b> Creative Arts (3)	<b>PA</b> Global Citizenship (3)

Freshmen are strongly encouraged to take UNV 101 their first semester.

### Second Year

<i>First Semester • 14 - 15 Credit Hours</i>	<i>Second Semester • 14 - 15 Credit Hours</i>
<b>BIO 203</b> Intro to Cell Biology (3)	<b>BIO 206</b> Evolutionary Biology (3) or <b>BIO 209</b> Fundamentals of Ecology (3)
<b>CHM 241</b> Organic Chemistry I (3) and <b>CHM 244</b> Organic Chemistry I Lab (2) or <b>CHM 231</b> Fundamentals of Organic Chemistry (4)	<b>CHM 242</b> Organic Chemistry II (3) and <b>CHM 245</b> Organic Chemistry II Lab (2) or <b>ELECTIVE</b> (if <b>CHM 231</b> was taken) (5)
<b>BSC 292</b> Applied Bio Sophomore Seminar (1)	<b>MAJOR</b> Tool Course 2 (3)*
<b>MAJOR</b> Tool Course 1 (3)*	<b>PA</b> Global Citizenship (3)

### Third Year

<i>First Semester • 17 Credit Hours</i>	<i>Second Semester • 16 Credit Hours</i>
<b>BIO 201</b> Human Anatomy (4)	<b>BIO 342</b> Genetics (3)
<b>PHY 161</b> Physics for Life Sci I with Lab (4)	<b>CHM 332</b> Outlines of Biochemistry (3)
<b>MAJOR</b> Professional Course 1 (3)*	<b>CHM 332L</b> Outlines of Biochemistry Lab (1)
<b>PA</b> Social Science (3)	<b>PA</b> Humanities (3)
<b>PA</b> Advanced Writing (3)	<b>MAJOR</b> Tool Course 3 (3)*
	<b>MAJOR</b> Tool Course 4 (3)*

### Fourth Year

<i>First Semester • 16 Credit Hours</i>	<i>Second Semester • 15 Credit Hours</i>
<b>BIO 305</b> Human Physiology (4)	<b>BSC 492</b> Applied Bio Senior Seminar (1)
<b>MAJOR</b> Tool Course 5 (3)*	<b>MAJOR</b> Tool Course 6 (3)*
<b>MAJOR</b> Professional Course 2 (3)*	<b>MAJOR</b> Professional Course 3 (3)*
<b>PA</b> Global Citizenship (3)	<b>PA</b> Global Citizenship (3)
<b>PA</b> Social Science (3)	<b>CAPSTONE</b> or <b>ELECTIVE</b> if senior capstone fulfilled by Professional Course 2 (3)*

\* Professional and Tool Courses should be chosen in consultation with a faculty advisor

This planning sheet does not guarantee offer of classes in any given semester; please consult with an Advisor to schedule your classes appropriately. Your degree audit is your official program record.

## CAREER OPTIONS

The Applied Biology major includes two professional certificates and a “tool” requirement. Students in the Human Biology & Health Sciences concentration will be ready for employment in biomedical sciences at Q Labs, Children’s Hospital Medical Center, MedPace and other employers involved in healthcare and biotechnology. This concentration also prepares students to attend professional schools in the health sciences. Graduates are qualified for careers such as:

- Lab Technicians
- Research Assistants
- Science Teachers
- Pharmaceutical Sales Representatives
- Science Teachers
- Technical Writers

## GRADUATION REQUIREMENTS

Students must earn a minimum of 124 credit hours and achieve an overall GPA of 2.0 in order to qualify for graduation. Students should consult with their DAR and advisor to ensure that all degree requirements are met prior to graduation.

<http://bulletin.miamioh.edu/liberal-arts-applied-science/applied-biology-bs/>

## TOOL REQUIREMENT

The Applied Biology major includes elective hours and requires the completion of a “tool” requirement - a non-biology minor or certificate that provides students with additional skills that are useful to professional biologists. Students can self-design a tool, with departmental approval. Tools in the Applied Biology major include:

- Commerce Minor
- Data Intelligence Minor
- Forensic Investigation Minor
- Psychological Sciences Minor
- GIS Certificate

## CONTACT INFORMATION

### Department of Biological Sciences

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### Office of Admission

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### Office of Advising

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### Career Services and Professional Development

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