

MAJOR MAP

Biology - Bachelor of Science

Specializations: Ecology and Conservation Biology, Forensic Biology, Marine and Aquatic Biology

URL for Undergrad Catalog - bgsu.edu/catalog.html

CLASS OPTIONS	Freshman	Sophomore	Junior	Senior
	Complete BIOL 2000. Begin BIOL 2040 & 2050 sequence. Begin MATH sequence consistent with placement. Complete GSW requirement.	Complete CHEM 1250 and CHEM 1270 & 1280 (or CHEM 1350 and CHEM 1370 & 1380) sequence. Continue MATH if needed. Complete BIOL 3500 and BIOL elective.	Complete MATH if needed. Complete CHEM 3060 or CHEM 3410 (Pre-Health Professionals also need CHEM 3440 and either CHEM 3450 or CHEM 3460). Complete at least two BIOL electives (see BIOL Group requirements).	Complete PHYS 2010 (Pre-Health Professionals also need PHYS 2020). Complete BIOL electives (10 at 4000 level) to fulfill required number of BIOL credit hours and group requirements. Complete minor requirements.
GOOD ADVICE	Meet academic advisor in College of Arts & Sciences (2nd floor Administration Bldg.). See faculty mentor (Life Sciences) about ways to promote your skill set. Apply for scholarships.	Meet with your academic advisor in the College of Arts & Sciences (2nd floor Admin. Bldg.). See your faculty mentor (Life Sciences) about ways to add to your skill set. Pick a minor or specialization.	 Complete junior audit with academic advisor in the college. See faculty mentor about requirements for the Biology Honors program, and finding summer jobs at science labs. Consider graduate school.	Complete a graduation check with an academic advisor in the College of Arts & Sciences. Apply for graduation.
RELEVANT EXPERIENCE	Meet all your faculty. If qualified, apply for a work study position in a research lab. 	Consider working on an independent research project (BIOL 4010) with a faculty member. Gain volunteer experience (e.g., Marine Lab, Herpetology Lab).	Continue working on an independent research project (BIOL 4010) and volunteering. Apply to be a tutor in the Learning Commons.	If conducting an independent research project (BIOL 4010), present research findings at the Undergraduate Research Symposium. Continue volunteering and tutoring.
USEFUL CONNECTIONS	Join a student organization (e.g., AED, AMSA, Marine Biology Assoc., Pre-Vet Medicine Assoc., Tri-Beta, Delta Delta Sigma). Join study groups and learning communities (e.g. Natural & Health Sciences Residential Community).	Visit the BGSU Career Center at www.bgsu.edu/career-center and consider enrolling in the Falcon Internship Guarantee Program. Explore in-demand careers, career pathways, and occupations using http://www.OhioMeansJobs.com	Seek a leadership role in a student organization.	Continue involvement in student organizations and learning communities.
GLOBAL VIEWS	Complete foreign language and international perspective requirements.	Review Education Abroad options at www.bgsu.edu/educationabroad . 	Talk with your faculty mentor about field course opportunities (e.g., Marine Biology Field Trip, OSU Stone Lab, Gulf Coast Research Lab), and attending a research conference. Build your network.	Attend Department of Biological Sciences seminars (www.bgsu.edu/biologyseminars).
CAREER PREP	Sign up for the Falcon Internship Guarantee through the BGSU Career Center. Visit Office of Pre-Professional Programs (www.bgsu.edu/ppp) and the Career Center Open House. Upload your resume onto WorkNet.	Find a job on campus that utilizes your scientific skills. Attend EXPO to meet science organizations such as Conservancy for the Cuyahoga national Park, FBI, Ohio EPA and ProMedica.	Meet with your faculty mentor and visit BGSU Career Center about internships (BIOL 4890) such as off-campus NSF Research Experiences for Undergraduates, the Toledo Zoo, Ohio DNR, Ohio EPA, Ohio BCI Lab. Prepare for GRE, MCAT, etc. 	If applying to graduate programs, take appropriate examinations (e.g., GRE, MCAT, VCAT, DAT, OCAT). Visit BGSU Career Center for assistance in searching for job opportunities. Prepare an exit plan for life after college.



Graduation & Beyond

Many of our graduates pursue post graduate degrees such as M.S., Ph.D., M.D., D.D.S., and D.V.M. Graduates are prepared for careers in biology related positions, for example:

- Research Lab Technician
- Park Naturalist
- Environmental Resource Manager
- Pharmaceutical Sales Representative
- Aquarist
- Forensics Science Technician
- Food Safety Inspector

Points of Pride

Graduates have gone on to jobs as lab technicians at Chemtron, specialists at Lorain County Metroparks, assistant aquarists at North Carolina Aquarium, chemists at Liberty Province and Chemicals, biologists at Toledo Zoo, animal handlers at African Safari Wildlife Park, and biologists in pharmacology at WIL Research.



FACULTY SUCCESS

This past summer, **Dr. George Bullerjahn** and **Mike McKay**, biology, led a team studying harmful algal blooms in Sandusky Bay. It's part of an overall \$2 million Lake Erie water quality initiative by the Ohio Board of Regents.

The \$250,000 project, "Harmful Algal Bloom Detection, Mapping and Warning Network: Sandusky Bay," is aimed at protecting the Sandusky city water supply. The endeavor had several goals, said Bullerjahn.

The first to provide early warning of toxic cyanobacteria outbreaks to area water plant managers so they can respond quickly and appropriately to the intensity and extent of the toxic bloom. The longer-term goal is to better understand these blooms by monitoring water conditions and measuring and mapping toxin levels.



STUDENT SUCCESS

BGSU conservation biology students **Paige Arnold**, second-year graduate student from Temperance, Mich., and **Matthew Zach**, a junior from Fairview Park, Ohio have been studying monarch butterflies to one day provide insight in to what plants are most beneficial to monarchs and help guide conservation and restoration efforts.

Arnold and Zach's daily research included delicately unfurling the monarchs' tiny proboscises – strawlike mouth parts for sipping nectar – and placing them onto simulated flowers holding containers of nectar so they may drink in the sweet solution.

This activity, which has to happen within the butterflies' relatively short reproduction season, is the subject of Arnold's research for her graduate thesis. Zach, who plans to become an entomologist, is also collecting data for his undergraduate research project. Both are students of Dr. Helen Michaels, biology class. Arnold has already been asked to write an article for Wild Ones, a national not-for-profit organization that promotes biodiversity.

