

## Department of Biological Sciences Facilities

### Greenhouse - north end of campus next to tennis courts

The greenhouse facility has four houses. Two of the greenhouses are used for research and class projects. The remaining two houses hold the teaching collections, which include a desert area and a tropical floor planting. Bananas, ferns, cycads, epiphytes, and a variety of orchids can be viewed year round. There is a guided exploration of plants on display that illustrate the different adaptations of species to various pollinators, herbivores, and environmental conditions.

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### Marine Lab - LSC 209

The marine laboratory at Bowling Green State University contains over 3,000 gallons of seawater in over 40 aquaria including a 500-gallon shark tank and a 10-foot touch tank. In the lab, eight major phyla are represented in over 66 genera of marine life including sea anemones, corals, starfish, sea urchins, snails, crabs, and algae as well as a wide variety of freshwater and marine fish. The animals in the lab are maintained by students mainly for class study and research projects, but are also present for the appreciation of visitors and other students.

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### Herpetology Lab - LSC 111

Through outreach into the community, as well as on campus, the mission of the Herpetology lab is to incorporate the core values of Bowling Green State University while promoting appreciation of biological diversity and the understanding and respect of organisms encountered through the field of Herpetology. Volunteer work in the lab, providing hands-on demonstrations and lectures comprise our effort in encouraging respect in peoples' reaction to reptiles while educating as well. Research utilizing proper reptile husbandry is encouraged in the same manner that all student-designed research is encouraged in the Department of Biological Sciences at BGSU. The Herpetology lab is committed to the learning that comes from hands-on experience.

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### Center for Microscopy and Microanalysis - LSC 546

The Scanning Electron Microscope (SEM) is a very useful tool for many aspects of science. A biologist might use an SEM to study the tiniest micro-structures of an insect, the geologist might use it to find out what chemicals are present in a rock specimen, and the automobile engineer might use it to find tiny imperfections in a car part. SEM images are created using electrons instead of the photons of light we use to see the world around us. Photons also help us view the microscopic world, as for example, in the familiar light microscope. Electrons are more useful than photons because they have a shorter wavelength. This permits magnified imaging of a specimen by electrons up to 200 times greater than with the light microscope. The theoretical limit of magnification for a light microscope is about 2,000X whereas the best SEM can magnify and resolve a specimen greater than 400,000X!!! The Transmission Electron Microscope (TEM) is a very important tool for many aspects of science. A biologist might use a TEM to study the membrane of a sub-cellular organelle and the chemist might use it to identify a crystalline substance. TEM images are created using electrons instead of the photons of light we use to see the normal world around us, or even the microscopic world as seen through the familiar light microscope. Electrons are often more useful than photons for imaging because they can travel at shorter wavelengths than light. This permits magnification and imaging of a specimen by electrons up to 800 times greater than the best light microscope. The theoretical limit of magnification with the resolution of light microscopy is about 2,000X whereas a high quality TEM can magnify and resolve a specimen greater than 1,500,000X!

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