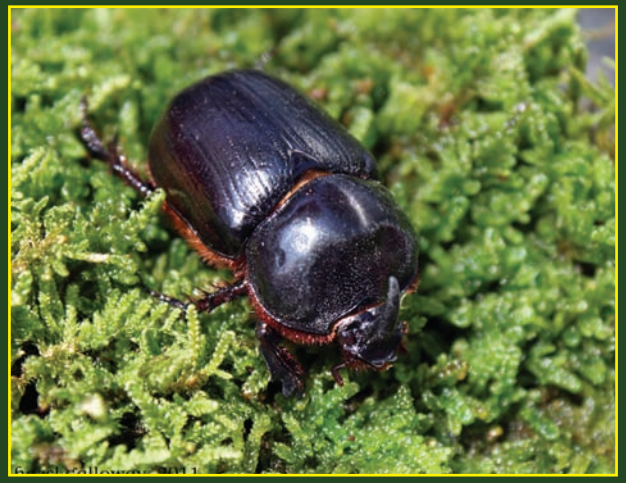
Courses at Mountain Lake

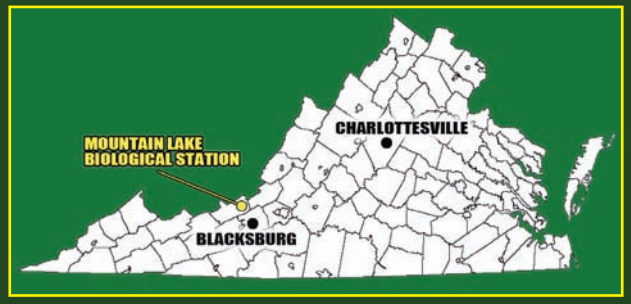
The station offers field courses led by internationally recruited instructors. All courses include substantial field experiences. Located in the deciduous hardwood forest of the Appalachian Mountains of southwestern Virginia, the station provides a wide array of natural environments for outdoor research and instruction, as well as modern laboratory facilities. An exciting, diverse and friendly academic community fosters collaboration at all levels and promotes the constant exchange of ideas with fellow students and scientists.

Courses earn undergraduate or graduate credits and lab credits toward the UVA Biology Major. Courses are open to UVA and non-UVA students.

Look up **mlbs.org** for tuition and fees. A limited number of fellowship awards are available.



Mountain Lake Biological Station is a residential research and teaching facility located on the top of Salt Pond Mountain in Giles County, Virginia.



MOUNTAIN LAKE BIOLOGICAL STATION

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MOUNTAIN LAKE BIOLOGICAL STATION

2012 Summer Courses

University *of* Virginia

SUMMER SESSION I:
May 14 - June 8 (4 weeks)

Plant Conservation and Diversity:
Bioinformatics, Systematics, and Field Techniques

BIOL 4510/7510, Sec 1 (4cr)

Zack Murrell, Appalachian State University

The extraordinary diversity of the southern Appalachians will serve as a backdrop to explore the world of plants. We will visit unique regional mountain habitats to develop an appreciation for the different species assemblages in these ecologically wide-ranging sites. Issues at these sites concerning conservation of biodiversity will be explored. The methodology and management activities of state and federal agencies involved in conservation will be examined to evaluate their effectiveness. Based upon our observations and analyses, we will critique contemporary views of the most effective conservation units (individual, population, species, family, habitat, etc.) and the methods used to achieve the goals of the conservation community.

Field Biology of Sex

BIOL 3510, Sec 1 (4cr)

Kristal Cain, Indiana University

Why is sexual reproduction so common in animals? What does it mean to be female/male? Why, and how, do sex differences develop? What does science tell us about sex differences in humans? This course will address these questions and many others using ultimate (evolutionary/ecological) and proximate (developmental/physiological) perspectives, integrating many disciplines in the pursuit of answers. The course will place a strong emphasis on methods for collecting data on a wide variety of animal species (insects, birds, reptiles, etc.) while also providing a solid conceptual foundation using group discussions, reading, and lecture. Students will also design and conduct an in-depth independent research project on a topic of their own choosing, and present their findings in a format similar to what would be used at a professional meeting.

SUMMER SESSION II:
June 11 - July 6 (4 weeks)

Biology and Conservation of Fishes

BIOL 4510/7510, Sec 2 (4cr)

Dave Neely & Anna George,
Tennessee Aquarium Conservation Institute

This course will provide an introduction to the diversity and conservation of the southeastern freshwater fish fauna, part of the richest aquatic fauna in North America. Proficiency in field ichthyology will be developed through field trips, lectures and discussion. Particular emphasis will be placed on explaining current distributions of fish species in light of zoogeographic patterns and the geological setting, and how the resulting high levels of fine-scale endemism impact conservation status and protection efforts. We will also explore the challenges and threats specific to freshwater ecosystems that are causing their disproportionate imperilment. Through both field and case studies specific to the southeastern United States, we will apply the principles and methods of conservation biology to the effective preservation of fish diversity, with a special emphasis on ecological and evolutionary considerations.

Field Ethnobotany

BIOL 4510/7510, Sec 3 (4cr)

Lytton Musselman, Old Dominion University

What plant resources supported indigenous peoples of the Southern Appalachians? What are these plants and how are they identified and utilized? Answers will be sought through a field-based survey of the traditional cultural uses of plants and plant products in the Appalachians including cordage, dyes, fiber, food, medicine, and ritualistic uses. Information from regional Native American groups will be reviewed. Food topics include identifying starch sources and preparing food for eating and storage, sources of oils from plants, sugaring from native trees, and emergency foods. Students will design projects that will be presented at the course native plants banquet.

SUMMER SESSION III:
July 9 - August 3 (4 weeks)

Special Topics in Sculpture: Sculpture and Earth

SHORT COURSE July 9 - July 20
ARTS 2810/2812/3810/3812, (3cr)

William Bennett, University of Virginia

A class of earth, wind, fire, sticks, stones, and the alchemy of making. Sculpture and Earth will be a studio art course in making use of the natural resources and landscape of the Mountain Lake Biological Station. Advanced students wishing to pursue independent studies should contact the instructor.

Field Methods in Stream Ecology

SHORT COURSE July 16 - Aug 3
BIOL 4510/7510, Sec 4 (3cr)

Christine May & Scott Eaton,
James Madison University

This course will focus on integrating principles of stream and watershed ecology as a means of gaining insight into stream dwelling organisms and their environments. Course goals are to introduce students to: 1) the physical, chemical and biological organization of aquatic ecosystems, 2) current theories in stream and watershed ecology, and 3) lab and field methods for conducting stream research. Students will partake in field and laboratory explorations, and participate in lectures and student-led discussions. The class will meet daily and students should be prepared to hike and wade in rugged terrain and willing to work in wet conditions. Prerequisite is an introductory course in biology, ecology or environmental science.

Beginning Drawing I and II:
The Landscape, Small and Large

SHORT COURSE July 23 - Aug 3
ARTS 1610, Sec 2/2620, Sec 1 (3cr)

Megan Marlatt, University of Virginia

In this summer drawing course designed specifically for Mountain Lake, we will take advantage of this opportunity by exploring the landscape in regards to scale, drawing the smallest of nature's artifacts to the largest of its panoramic vistas. In respect for the scientific community that will welcome us to their nature laboratory, we will pursue that which both the arts and sciences have in common: the gift of observation. It will be through our acute observation of the environment that we will sharpen our drawing skills and expand our understanding of nature as one of the greatest muses of the visual arts.