

# Iowa Lakeside Laboratory

## Director

- Mary P. Skopec (Geographical and Sustainability Sciences)

## Iowa State University participating faculty

- Lori Biederman (Ecology, Evolution, and Organismal Biology), James Colbert (Ecology, Evolution, and Organismal Biology), Mary Harris (Natural Resource Ecology Management), Elizabeth Swanner (Geological and Atmospheric Sciences)

## University of Iowa participating faculty

- John F. Doershuk (Anthropology), Andrew A. Forbes (Biology), Marc A. Linderman (Geographical and Sustainability Sciences), Silvia Secchi (Geographical and Sustainability Sciences), Adam Skibbe (University College)

## University of Northern Iowa participating faculty

- Laura Jackson (Biology), Mark Meyers (Biology), Patrick Pease (Geography/Social Science and History Education), Daryl D. Smith (Biology)

**Website:** <https://iowalakesidelab.org/>

Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa. Students at all three institutions, as well as visiting students, nationally and internationally, may take Iowa Lakeside Laboratory courses for credit. They should check with their advisors to determine whether specific courses count toward requirements of their academic majors or minors or toward other requirements.

Iowa Lakeside Laboratory was established in 1909 for the conservation and study of the rich flora and fauna of northwest Iowa, especially the numerous lakes, wetlands, and prairies of the Iowa Great Lakes region. The campus is located on approximately 140 acres of restored prairie, wetland, and gallery forest along the west shore of West Okoboji Lake. Lakeside's mission is to provide undergraduate and graduate students an opportunity for hands-on experience in a variety of natural and human environments through its field-oriented summer courses, and to provide research facilities and support for graduate students and faculty members working on research projects in northwestern Iowa.

Each summer Iowa Lakeside Laboratory offers students a unique educational experience—small, inquiry-based, full-immersion, field-oriented courses in the natural sciences (archaeology, botany, ecology, hydrology, soils, zoology) and related areas, such as the health sciences. Courses are taught at the sophomore/junior level and the senior/graduate level. Enrollment usually is limited to 10 or fewer students per course. Most courses meet all day Monday through Friday, last four weeks, and offer 1 s.h. of credit for each week (40 clock hours) in class. One- and two-week courses also are available, including courses designed especially for teachers.

Weather permitting, students normally spend at least part of each day doing fieldwork, either as part of their class work or for individual or group projects.

Not all courses are offered every year; visit Course Catalog on the Iowa Lakeside Laboratory website or consult summer

course offerings at the University of Iowa or the other Regent institutions to learn which courses will be offered during a particular summer session.

Research projects by undergraduates, graduate students, and faculty members can be completed either on the Iowa Lakeside Laboratory campus or at many nearby natural areas. Undergraduate and graduate students are strongly encouraged to work on independent projects at the laboratory, and graduate students are welcome to use Lakeside as a base for their thesis and dissertation research. Laboratory space and other facilities are available for long-term or short-term research projects.

Teaching and research facilities include eight laboratory buildings, a library, and a lecture hall. Living accommodations include cottages, motel-style units, and a large mess hall. All students are encouraged to stay at Lakeside while they are taking courses to derive full advantage of its educational, professional, and social life.

## Registration

Students may enroll in Iowa Lakeside Laboratory courses by submitting an Iowa Lakeside Laboratory registration and housing form to the Iowa Lakeside Laboratory administrative office. Information about current courses, registration, and housing is available on the Iowa Lakeside Laboratory website.

Registration usually opens in early January. Enrollment is limited, so students should register early. When they register, they must apply for housing or indicate that they plan to live off campus.

## Financial Support

Financial support is available for undergraduate and graduate students. The Friends of Lakeside Lab organization provides a merit scholarship that is equivalent to the cost of room and board. Additional financial support may be available from Iowa Lakeside Laboratory and from other sources. Consult the Office of Student Financial Aid for information about support, including work-study and loan programs.

## Courses

### Iowa Lakeside Laboratory Courses

**IALL:1010 Earth, Air, and Sky** **1-4 s.h.**  
Essentials of earth science, including astronomy, meteorology, geology, and paleontology; includes laboratory and fieldwork.

**IALL:1030 Natural History Workshop** **1-2 s.h.**  
A specific aspect of the upper Midwest's natural history, or techniques for studying natural history; amphibians and reptiles, birds and birding, nature photography, mushrooms and other fungi, Iowa's trees and forests, fish biology, prairies, common algae, common insects, aquatic plants, life in rivers, life in lakes, mosses and liverworts, natural history of Iowa Great Lakes region, field archaeology, scuba diving, astronomy, nature sketching; five-day, nontechnical introductions.

**IALL:1040 Field Archaeology** **4 s.h.**  
Nature of cultural and environmental evidence in archaeology, how such evidence is used to model past human behavior and land use; emphasis on Iowa prehistory; basic reconnaissance surveying, excavation techniques.

- IALL:3034 Topics in Ecology and Sustainability 1-4 s.h.**  
 Scientific introduction at intermediate level to ecology and evolution of important groups of organisms: algae to vertebrates, different ecological phenomena (e.g., fire and climate change), varying landforms, different ecosystems (e.g., prairies and aquatic systems); emphasis on sustainability with introduction to concepts, issues, and practices; ability to communicate environmental information through a variety of means. Requirements: one general biology course.
- IALL:3101 Science Teaching Methods 1-3 s.h.**  
 Development and implementation of laboratory exercises suitable for inclusion in elementary, middle, high school, and community college biology, geology, and environmental courses; exercises built around common organisms and ecosystems in Iowa; animal biology, plant biology, fungi and lichens, aquatic ecology, prairie ecology, wetland ecology, limnology, animal behavior, insect ecology, biology of invertebrates, noninvasive use of living organisms, Project WET; field trips.
- IALL:3103 Aquatic Ecology 4 s.h.**  
 Analysis of aquatic ecosystems; emphasis on basic ecological principles; ecological theories tested in the field; identification of common plants and animals. Requirements: ecology, chemistry, and physics courses.
- IALL:3104 Nature Based, Early Childhood Teaching Methods Using "The Project Approach" 3-4 s.h.**  
 Examination of the value of young children's direct experiences in nature through inquiry-based learning; "The Project Approach" builds on children's natural curiosity and enables them to interact, question, connect, problem solve, communicate, and reflect; students follow steps for implementing a nature-based project within their own classroom setting as they insure the needs of diverse learners are met for both social and academic learning; designed for early childhood teachers.
- IALL:3109 Ecology and Systematics of Algae 2,4 s.h.**  
 Ecology, morphological structure, phylogeny, and taxonomy of freshwater algae based on field material collected; emphasis on genus-level identifications, biodiversity, ecology; habitat visits to lakes, fens, streams, rivers; algal ecology.
- IALL:3113 Undergraduate Independent Study 1-4 s.h.**  
 Requirements: junior or senior standing.
- IALL:3114 Field Mycology 2 s.h.**  
 Identification and classification of common fungi; techniques for identification, preservation, and culture practiced with members of various fungi groups.
- IALL:3117 Ecology and Systematics of Diatoms 4 s.h.**  
 Field and laboratory study of freshwater diatoms; techniques in collection, preparation, and identification of diatom samples; study of environmental factors affecting growth, distribution, taxonomic characters; project design and execution, including construction of reference and voucher collections; data organization and analysis.
- IALL:3122 Prairie Ecology 4 s.h.**  
 Basic patterns, underlying physical and biotic causes of regional and local distributions of North American prairie plants and animals; field and laboratory analysis and projects. Requirements: familiarity with basic principles of biology and ecology.
- IALL:3126 Ornithology 2-4 s.h.**  
 Biology, ecology, and behavior of birds; emphasis on field studies of local avifauna; group projects with focus on techniques of population analysis and methodology for population studies.
- IALL:3131 Ecology 4 s.h.**  
 Introduction to the principles of ecology at the population, community, ecosystem levels; field studies of local lakes, wetlands, and prairies used to examine factors that control distributions, interactions, and roles of plants and animals in native ecosystems. Requirements: two semesters of introductory biology.
- IALL:3164 Animal Behavior 2 s.h.**  
 Examination of ecological and evolutionary theories of animal behavior through field studies of animal coloniality, courtship, territoriality, predator defense, habitat selection, foraging, mating systems, and parental care. Requirements: two biology courses.
- IALL:3175 Soil Formation and Landscape Relationships 2-4 s.h.**  
 Relationships between soil formation, geomorphology, environment; soil description, classification, geography, mapping, interpretation for land use.
- IALL:3176 Glacial Geomorphology 2,4 s.h.**  
 Field-based introduction to glacial environments and processes including the origin of sediments, landforms, and landscapes produced in glacial and associated environments; aeolian (wind) processes, river and lacustrine systems, and mechanisms and chronologies of climate change.
- IALL:5213 Graduate Independent Study 1-4 s.h.**
- IALL:5217 Ecology and Systematics of Diatoms 4 s.h.**