Ecology and Systematics of Diatoms  
IALL:3117:0EX1 (UI), IA LL 5801 (ISU), IA LL 6217 (UNI)  
Syllabus: Summer 2016

About the Instructor

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Academic Course Home

University College—Iowa Lakeside Laboratory  
http://www.lakesidelab.org

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Course Description: This course is an intensive, field-oriented class appropriate for advanced undergraduate students, graduate students, and post graduate workers in ecology, geology, environmental sciences, and diatom taxonomy. We will immerse ourselves in the diverse aquatic habitats and fossil deposits of the Upper Midwest to observe freshwater diatoms. Students will learn techniques in diatom collection, preparation, and identification. Lectures will cover taxonomy, systematics, and biogeography of most freshwater genera. Students will complete individual voucher collections using modern database techniques and produce a written species treatment using guidelines for electronic publication. Students are encouraged to bring research materials. The use of diatoms in ecological and paleoecological research will be discussed.

Scholarships are available through Iowa Lakeside Lab (deadline April 1) including The Charlie Reimer Scholarship, which is awarded to one student annually based on scholastic merit, and the Eugene F. Stoermer Diatom Scholarship, which is awarded to a student or independent researcher based on background, qualifications, and motivation for attending Lakeside. For more information see the scholarship section of the Iowa Lakeside Lab web site.

The Hannah T. Croasdale Fellowship is available through the Phycological Society of America (deadline March 1): http://www.psaalgae.org/hannah-t-croasdale-fellowship

The John C. Kingston Diatom Fellowship was established in 2004 by colleagues, friends and family to honor John's memory and to recognize the contributions he made to the study of diatoms at Iowa Lakeside Laboratory. Each summer, an award is made to one advanced student or researcher to serve as teaching assistant for the Ecology and Systematics of Diatoms course and to engage in a research project. The fellowship includes a stipend and room and board at Lakeside and is available to domestic and international students, at the graduate level or advanced undergraduate level. Applicants should submit a cover letter, CV, and statement of teaching, research, and career interests to the Lakeside Lab Executive Director by email (chet-rzonca@uiowa.edu) by February 28, 2016. The JC Kingston Fellowship is administered by the Friends of Lakeside Lab.

Pre-requisites: none

Assignments:

Course Objectives: Students will learn techniques in collection, preparation, and identification of diatoms. Students will develop working knowledge of diatom biology, taxonomy, systematics, stream, wetland and lake...
ecology, biogeography, and the application of diatoms in various research applications. Students will learn proper curatorial, database, and microscope counting techniques used in diatom research applications.

**Course Requirements:** Courses at Iowa Lakeside Laboratory are inquiry-based in structure, typically consisting of a mix of lectures, exercises, field trips, and projects designed to teach students essential aspects of a particular topic and the process of forming and answering scientific questions about that topic. Teaching is often by the Socratic Method with an emphasis on interaction between student and teacher.

1. Each student will complete a personal slide collection with 40 diatom species identified on slides, and a corresponding database of images and locality information (with sequential due dates described in class schedule). All identified specimens on slides must be labelled and permanently circled with a diamond scribe; please limit IDs to 3-4 species per slide. Students will be able to use this collection as a basis for further professional studies.

2. Each student will contribute 3 identified and circled specimens to the Iowa Lakeside Laboratory permanent collection.

3. Each student will complete a "species treatment" detailing the morphology, nomenclature, history, distribution, and ecology of a single diatom species for peer review and e-publication on the Diatoms of the United States website.

4. Students are expected to participate in all field trips and class activities. Lectures and lab topics are available by request from the professors. Field trips will vary from 3-5 outings each week, to be scheduled based on weather and class progress.

**Required Course Materials:**

**Textbook to Purchase:** None

**Equipment:** None

**Course Requirements:** Students are encouraged to bring their own research materials.

**Course Grade:** Course grades are given based course participation and on completion and quality of course requirements. Examinations are both formal and informal and given at the discretion of the instructors. Formal written examinations typically consist of a mix of essay questions and/or multiple choice questions. Laboratory and field examinations occur in most courses.

**Course Schedule:** All Lakeside courses are immersion-based; students take one course at a time and meet or have assignments from 8 am to 5 pm, five days per week. Activities each day for all courses are determined by a combination of weather, topic, general understanding of the subject matter, and other considerations, but are ultimately designed to most effective meet course goals.

**Policies and Instructions:**

As a registered student in a Distance Education course through The University of Iowa, you are responsible for the policies and instructions posted below.

**Special Modifications:** If you are a person with a disability who requires an accommodation in order to participate in University of Iowa Continuing Education courses or programs, please contact Student Disability Services: 3015 Burge Hall, (319) 335.1462, or sds-information@uiowa.edu, or fax: (319) 335.3973. Reasonable accommodations for students with physical, mental, or learning disabilities will be made. The Division of
Continuing Education is committed to both Section 504 of the Rehabilitation Act of 1973 and Section 508 of the Workforce Investment Act of 1998.

**Academic Misconduct:** All forms of plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. All academic fraud is reported to the departmental DEO and then to the Associate Dean for the Office of Academic Programs and Student Development. All incidents of academic misconduct (plagiarism and cheating) will be subject to the rules and regulations of the College of Liberal Arts and Sciences as defined and stated in section IX of the Academic Policies Handbook ([http://clas.uiowa.edu/students/handbook](http://clas.uiowa.edu/students/handbook)).

In this class, students are not allowed to collaborate with others on assignments. Do not share your work with others or ask others to see their completed assignments since both are considered academic misconduct. If you need help, please contact the instructor by email. Students are responsible for understanding this policy; if you have questions, ask for clarification.

**Understanding Sexual Harassment:** Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit this site ([http://www.sexualharassment.uiowa.edu/](http://www.sexualharassment.uiowa.edu/)) for definitions, assistance, and the full University policy.

**Complaint Procedures:** If at any time you have concerns about this class or your performance in it, please do not hesitate to contact me. If you do not feel that your concern has been resolved satisfactorily, you may contact the Department Chair (contact information provided at the top of page one of this syllabus). If you still do not feel that your concern has been resolved satisfactorily, you may contact University College, 310 Calvin Hall, (319) 335-1497, uc-academics@uiowa.edu. All complaints must be made within six months of the incident. The College's complaint procedures are in section IX of the Academic Policies Handbook ([http://clas.uiowa.edu/students/handbook](http://clas.uiowa.edu/students/handbook)).

**Administrative Home of the Course:** The administrative home of this course is the University College (UC), which governs academic matters relating to the course such as the add/drop deadlines, the second-grade-only option, issues concerning academic fraud or academic probation, and how credits are applied for various graduation requirements. Different colleges might have different policies. If you have questions about these or other UC policies, contact your academic advisor or the Division of Continuing Education, 250 Continuing Education Facility, (319) 335-2575, dce-information@uiowa.edu. As a registered student in a Distance Education course through The University of Iowa, you are responsible for the policies and instructions as posted online: [http://www.continuetolearn.uiowa.edu/current.academicpolicies/index.html](http://www.continuetolearn.uiowa.edu/current.academicpolicies/index.html).