

Syllabus for Freshwater Algae- 2012

Biol 336

Instructor: Dr Robert W. Pillsbury

Office: Halsey 41 office hours: Monday 10:20am-12:40 pm, Thurs. 9:00-10:00am

email: pillsbur@uwosh.edu

Phone: 424-3069

Tentative Schedule for Lecture and Lab

- Sept. 5. Intro to Algology, Cyanophyta (cocoid and colonial)
Lab-How to collect algae.
Intro to microscopes and using a key
- Sept 10. Filamentous Cyanobacteria
- Sept. 12. Chlorophyta –cocoid and colonial
Lab-examine samples
- Sept 17 -Chlorophyta-Filamentous
- Sept 19 -Chlorophyta -Desmids
Lab- Collection trip
Culturing algae
- Sept 24 Bacillariophyta-Centric and Araphid diatoms
- Sept 26 Bacillariophyta-Monoraphid and Naviculoid Diatoms
Lab- Making diatom slides
- Oct 1 Bacillariophyta-Asymmetrical and Keeled Diatoms
- Oct 3 Chrysophyta
Lab-Field trip? Examine samples.
- Oct 8 Chrysophyta and Euglenophyta
- Oct 10 Euglenophyta
Lab- Electron Microscope demonstration
- Oct 15 Exam I
- Oct 17 Red Algae and Dinoflagellates
Lab-Collecting trip.
- Oct 22 Cryptomonads and Brown algae

Oct 24	Algal Ecology Lab- How to make soft algae slides
Oct 29	Algal Ecology
Oct 31	Biomonitoring with Algae Lab-look at samples
Nov 5	Paleolimnology
Nov 7	Guest Speaker? Lab- open lab
Nov 12	Guest Speaker?
Nov 14	Lecture and Lab: Work on Class research project.
Nov 19	Algal ecology- habitats
Nov 26	Algal ecology-nutrients
Nov 28	Algal ecology- streams Lab- examine samples
Dec 3	Algal ecology-Light
Dec 5	Lecture Final Lab - open
Dec 10	Review!
Dec 12	Lab Final

Objectives:

Undergraduate and Graduate students will learn:

- Methods for sampling algae in the field
- How to identify algae
- Modern thoughts on algal taxonomy
- Characteristics and ecology of major groups
- How to culture algae
- How to use algae to assess environmental problems
- How to make permanent slide/reference collections

Graduate students:

In addition to the objectives listed above graduate students will:

- Gain experience planning and conducting research relating to algae.
- Become familiar with algae research in the primary literature

-Relate knowledge gained by presenting the results of their research project to the rest of the class.

Grades for Biol 336- undergraduates

Exam I	100 points
Lab final	200 points
Final (written)	100 points
Quizzes	100 points
Extra credit for cultures (10 points each, up to 20 pts)	

Total **500 points**

Grades for Biol 536 (Grad Students)

Exam I	100 points
Lab final	200 points
Final (written)	100 points
Quizzes	100 points
Algae cultures	20 points
Algal research project	100 Points

Total **620 points**

Algal research projects:

Group project: Groups of 3 or 4 students will propose a study that they will conduct to try to answer an ecological question. After this proposal is approved by the instructor the students will carry out this experiment and turn in a scientific paper presenting their findings (including primary literature references). Although the rest of the paper is a group effort, each student will write their own discussion. Near the end of the term, the groups will formally present their research to the rest of the class in a 20 minute presentation.