This course is intended for seniors and graduate students in Biology, Environmental Science, Geography, or Geology. A previous ecology course is **prerequisite** [or consent of instructor].

It carries **5 credit hours** since it has ~3 hours of lecture, ~3 hours of lab and discussion, and 4 field trips (3 all day on Saturdays) but with one to eastern Oregon being a two-day overnight camping trip. The 4 field trips are required (rain or shine) although a good excuse for missing one will be accepted, but hopefully **not for the overnight trip that will show the greatest diversity of inland aquatic habitats**. The number of students is limited to 14. The logistics of getting everyone out on the various lakes at the same time requires 4 rubber rafts and much equipment. **It will require a large field trip fee** ($>100). The schedule is as follows:

**Lecture**: MW 10:00-11:20 Room 111 Huestis  
**Lab**: Tues. 14:00-16:50, Room 111 Huestis

The lab and discussion period will be used to examine and identify the various organisms collected on previous or other collection trips. A rudimentary knowledge of freshwater algae and invertebrates would be of great help, but a basic coverage will be given in the labs.

However, one of the important features of the course will be to discuss a variety of important (or interesting) papers (recent or otherwise) in the field of limnology and aquatic ecology. Each student will pick a paper from a list provided by the instructor (or picked by the student from another source with permission), and present this paper during part of a lab/discussion period. These papers (mostly from the primary literature) will be read **ahead of time** by all the students and a list of questions from each student will be compiled before the presentation, and these will then be discussed by the presenter, the remainder of the class and the instructor.

The topics covered in lecture and the textbook will include:

* Origin & Age of Lakes, lake morphometry; light & photosynthesis, primary and secondary productivity, other light effects, temperature cycles, lake stratification, dissolved oxygen, inorganic carbon & pH, rivers and the export of materials from watersheds, salinity and major ion composition of lakes and rivers, oxidation-reduction potential, nutrients (phosphorus, nitrogen, iron, silica, micro-nutrients, etc.)--concentrations & cycling, eutrophication and restoration (case histories), sewage treatment, etc., acidification and toxic contaminants.

**The present field trip schedule is as follows**: (revised Febr 22)

1. Sat. April 16: coastal lakes (Mercer Lake—mesotrophic, Cleawox—oligotrophic; Siltcoos Lake—eutrophic) and Knowles Creek

2. Sat. May 7: 7:30-4:00 Triangle Lake and Lake Creek

3. Sat-Sun. May 14-15 7:30 Sat - 4:30 PM Sunday. Eastern Oregon (Mares Egg cold Springs, eutrophic Klamath Lake, Hunters Hot Springs (Lakeview) and saline Lake Abert (Valley Falls) --roundtrip 500-600 miles [camping at Hunter’s required but 1 room rented at Hunter's Hot Springs motel for toilet facility]

4. Sat. May 21: Odell Lake or higher elevation lake if snow allows (near Willamette Pass) 7:30-4:00

Grades will be based on 2 exams (take home), lab practical, the reports (presentations), and attendance.