Catalog Description of Course Objectives Principles of freshwater biology with emphasis on factors affecting ecology and populations in diverse aquatic environments.


Course grading Grades will be based on up to pop quizzes (10%), a midterm exam (20%), laboratory participation and reports (30%), and a final comprehensive examination (40%). Your grade will be the better of two grades determined on the following scales: Scale 1: A, > 90%; B, 80-89%; C, 70-79%; D, 60-69%; F, < 60%; Scale 2: A, > 1.5 standard deviations above the mean; B, from 0.5 to 1.5 standard deviations above the mean; C, ± 0.5 standard deviations from the mean; D, from 0.5 to 1.5 standard deviations below the mean; F, > 1.5 standard deviations below the mean.

Make-up exams A single comprehensive make-up exam will be given immediately after the final exam for anyone who missed the midterm exam for any reason. None of the laboratories can be made up, and there will be no make-ups given for missed pop quizzes.

Schedule of lectures (MW, 11-11:50 am, 408 Shoemaker), reading assignments (in parentheses), and laboratories (Tu, 1-3:50 pm, 205 Shoemaker or at other designated locations); lecture and lab notes and handouts are available on blackboard.

- **21 Jan** Introduction; course objectives and requirements
- **26 Jan** Physical characteristics of water and constraints on life (Ch.2 & 3)
- **27 Jan** Lab 1: Hypothesis testing -- thermal stratification in standing waters
- **28 Jan** The chemistry of freshwater (Ch.4)
- **2 Feb** Light and temperature (Ch. 5)(FF: 1,2)
- **3 Feb** Lab 2: Scientific report writing
- **4 Feb** Evolution and diversity of freshwater organisms (Ch.6)
- **9 Feb** Headwater streams and rivers (Ch.7; FF: 3,4)
10 Feb Lab 3: Data analysis -- hydrological variation from cypress tree rings
11 Feb Degradation of upland streams (Ch. 8)

16 Feb Middle stage and depositional floodplain rivers (Ch. 9 & 10; FF: 5)
17 Feb Lab 4: Stream environments
18 Feb Floodplain Ecosystems

23 Feb Floodplains, continued (FF: 6)
24 Feb Lab 5: Reservoirs
25 Feb Reservoirs: life in river-lake hybrids (FF: 7)

2 Mar Reservoirs, continued
3 Mar Lab 6: Newspaper reports on reservoirs
4 Mar Midterm Exam

9-13 Mar Spring Break

16 Mar Lakes and other standing waters (Ch. 11; FF:9, 10)
17 Mar Lab 7: Field Station
18 Mar Paleolimnology (FF: 11)

23 Mar Paleolimnology, continued (FF: 12)
24 Mar Lab 8: Field Station
25 Mar The communities of shallow waters (Ch. 12)

30 Mar Communities of the pelagic zone (Ch. 13)
31 Mar Lab 9: North Mississippi Fish Hatchery
1 Apr Nutrients, algal succession and grazing (FF: 13)

6 Apr Predation and open water communities (FF: 14)
7 Apr Lab 10: Water and Sewage Treatment
8 Apr Freshwater fishes, biomanipulation and water quality (FF: 15)

13 Apr Benthic-pelagic interactions (Ch. 14)
14 Apr Lab 11: Newspaper accounts of water or sewage treatment
15 Apr Fish production and freshwater fisheries (Ch. 16; FF: 16)

20 Apr Biomanipulation for fisheries and water quality
21 Apr Lab 12: Discussion of John McPhee's book The Founding Fish
22 Apr Paleolimnology and the history of lakes (Ch. 10)

27 Apr Aquatic biogeography and exotic species
28 Apr Lab 13: Debate on Issues in Aquatic Ecology
29 Apr Climate change and the future of aquatic habitats (Ch. 11)

4 May Final examination, Noon, Monday