

**COURSE SYLLABUS**  
**COURSE NUMBER/DESIGNATION/SECTION:** Biology 4330  
**COURSE TITLE:** Aquatic Biology  
**CREDIT HOURS:** Three  
**SEMESTER, YEAR:** Spring, 2015

**Location of Class Meeting**

MWF 08:00 A.M. TO 09:00 A.M. – Lee Drain Building, Room 130

**Location of Laboratory**

FRI: 02:00 P.M. - 04:00 P.M. - Lee Drain Building, Room 130

**Class Meeting Times:** See Above

**Instructor:** Dr. James R. DeShaw, Professor

**Office Location:** Lee Drain Building, Room 122

**Instructor Contact Information**

Office Phone: 936-294-1020  
Fax Number: 936-294-3940  
Email Address: [bio\\_jrd@shsu.edu](mailto:bio_jrd@shsu.edu)

**Office Hours:** To be announced.

**Course Description:** Physical, chemical, and biological features of inland waters, organisms of freshwater; factors in biological productivity, methods and equipment. Largely a field course dealing with various approved methods of studying freshwater systems. This course is designed to meet the needs of chemists, teachers of science, biologists, and environmental scientists. Prerequisites: 11 hrs. BIO. Minimum grade of C in BIO 138/118, 139/119, 8 hrs. CHM, and junior or senior standing. Two-hour laboratory. Spring. Credit 3. Note: Course numbers are being changed for the above classes.

**Course Objectives:** The course objectives include:

1. To teach students the basic functioning of aquatic ecosystems.
2. To provide instruction relative to biological organisms that exist in freshwater with particular emphasis on East Texas fauna and flora.
3. To teach students the use of a dichotomous key for the identification of aquatic plants, insects, fish and other organisms.
4. To conduct laboratory experiments that allow students to learn collecting methods, techniques in analyzing water, methods of preserving and storing aquatic organisms.
5. To provide students an opportunity to make a collection of one hundred aquatic organisms

**Required Textbook(s) and/or Reference(s):** A Guide To Freshwater Ecology, July, 1993, Texas Natural Resource Conservation Commission.

**Supplemental Reading (\*not required):** Introduction to Limnology, by Stanley Dodson, McGraw Hill, 2005 Edition.  
Additional literature assignments will be made.

**Visitors in the Classroom:** Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

**Laboratories, Studios, and Individual Instruction:** A parallel laboratory is scheduled to meet on Friday from 2:00 P.M. to 4:00 P.M. It will meet for approximately the first eight weeks. Field trips, aquatic collections and reports will be scheduled for the last six weeks of the semester. A separate schedule of labs is in a separate handout. Please note that weather could modify scheduling. Also in a separate handout is the two required works, namely a three ring binder with all laboratory exercises, related materials, and a electronic presentation of 150 different aquatic organisms. Because of the importance of major field trips, they are required for this class. Exceptions will be made only for emergencies.

**Laboratory and Studio Sections:** Not applicable.

**Individual Instruction:** Tutors may be used by students. In the event a tutor is needed, the instructor will assist in finding a suitable advanced student or graduate student. Any cost of the tutor will be the responsibility of the student requesting the tutor.

**Course Outline:**

Physical Properties of Water  
Morphology of Impoundments  
Chemical Nature of Surface Water  
Diversity of Aquatic Organisms  
Single-Celled and Colonial Organisms  
Rotifers, Annelids, and Arthropods  
Larger Organisms  
Population Dynamics in Water; Population Size Changing with Time  
Community Ecology  
Species Interactions and Community Structure  
Freshwater Communities Changing Through Time

Aquatic Ecosystems and Physiology  
 Energy Flow  
 Chemical Cycles  
 The Edwards Aquifer and its aquatic significance  
 Fish Hatchery Operations in Texas  
 Surface Water Treatment  
 Domestic Wastewater Treatment

**Materials and Instruction:** To be discussed in the laboratory section of Biology 433.

**Instructor Evaluations:** Students may be asked to complete a course/instructor evaluation form toward the end of the semester.

**Attendance Policy:** Regular and punctual class attendance is expected of each student. To do well, you must be an equal and active participant in your education, therefore, it is your responsibility to attend class. Testing material will be based on class lecture and from the textbook. To do well on tests, you must attend lecture. A roll sheet will be used to monitor attendance (see the University Catalogue for details).

If a student is unable to come to class due to illness or unexpected circumstances, it is your responsibility to obtain the class notes and any assignments. You may contact me in my office if you have specific questions about a lecture; however, I will not re-lecture to students who have missed class.

Excessive absences (3) may influence the student's final grade for the course. This may amount to one letter grade for students on the border line.

**Exams and Grading:** Two major lecture exams will be given during the semester.

**Grading Plan:** The final grade for this class will be 60% from the two lecture exams, and 30% from the laboratory work, including the two major assignments. Ten percent will be based on participation (including attendance). That 10% would be hard for a person to obtain if they were passive in the lecture and laboratory aspects of our course.

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|---|-------|---------|
| A | 90    | 100.00% |
| B | 80    | 89.00%  |
| C | 70    | 79.90%  |
| D | 60    | 69.90%  |
| F | below | 60.00%  |

**Academic Dishonesty:** Students are expected to maintain honesty and integrity in the academic experience both in and out of the classroom. “*See Student Syllabus Guidelines.*”

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process.

**Student Absences on Religious Holy Days:** Students are allowed to miss class and other required activities, including examinations for the observance of a religious holy day, including travel for that purpose. Students remain responsible for all work. *See Student Syllabus Guidelines.*”

**Student with Disabilities Policy:** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should visit with the Office of Services for Students with Disabilities located in the Counseling Center. *See Student Syllabus Guidelines.*”