

Biology 450 – Aquatic Biology Syllabus – Spring, 2010

As a senior-level course, Aquatic Biology may be a bit different from some of the other classes you have had. There will be no weekly quizzes, no study guides for tests, less explanation of assignments and the syllabus in the classroom. As you transition on to graduate school, you will increasingly find that you have to take full responsibility for your learning.

All of biology, is becoming more and more mathematical. We will make extensive use of computers to help understand complicated topics. I assume you are competent in using a word processor and a spreadsheet. **If you are not, let me know immediately** and make arrangements to pair up with someone in the class who is familiar with these tools. Also, note that Ecology, Biology 318, is a prerequisite for the course. I may let students take the course without that prerequisite; but you may need to do additional reading to fully understand the topics presented here. If you do not, it is your obligation to ask questions, in class, online or in person.

There is no textbook for the class. An online tutorial, [The Sextant](#) will form the background for much of the information; additional material will come from primary and secondary literature. It is your responsibility to locate these sources.

Course Goals:

1. To learn the basic principles of aquatic biology. Success will be measured by your grades on tests.
2. To develop mathematical skills in relation to biology. Success will be reflected in your test grades.
3. To develop critical thinking skills. Progress will be evident in your tests and in your paper.
4. To improve communication skills both in reading and analyzing scientific papers. This will be evaluated in test grades and in your paper.
5. To learn how to effectively use computers to analyze, assemble, and format information in a professional fashion. Your mastery of these skills will be reflected in your paper.
6. To develop your ability to sight ID important freshwater benthic macroinvertebrates to the order level, and to use dichotomous keys to identify the same to the generic or specific level. Mastery will be demonstrated on the practical.
7. To improve your presentation skills, measured in the final presentation you give.

Instructor Information:

Dave McShaffrey
 Professor of Biology
 Biology Department
 Marietta College
 Marietta, OH 45750
 Rickey Room 242

Phone numbers: Try to reach me at these numbers (in this order):

Office: 376-4743

Home: (up till 10 p.m.) - 374- _____

E-Mail: mcshaffd@marietta.edu web pages: <http://mcnet.marietta.edu/~mcshaffd/>

Note on Voice and Email: Voice mail is handy for leaving information; it is an abuse of the technology to use it as a means of passing on responsibility. By the way, a voice mail message is fine for CYA excuse messages (Dr. McShaffrey, I'm sick this morning and I won't be in class (cough! cough!)). I find it easier to reply to email.

Office Hours: I welcome you to simply drop by my office! I post a copy of my schedule outside my door and on the web); you can use it to see when I am most likely to be free, sign up for a time, and stop by at that time. If the door is open, come on in! If, for some reason, I am busy, I will set up an appointment with you for later.

Grading:

There are 1000 points available in this class, tentatively distributed as follows:

ICI worksheet:	1 x 100	= 100
Paper	1 x 200	= 200
Presentation	1 x 100	= 100
Quizzes	5 x 10	= 50
Mid-term Exams:	2 x 100	= 200
Final Exam:	1 x 200	= 200
Team ID Practical	1 x 100	= 100
Individual ID Practical	1 x 50	= 50

Totals: =1,000

Bonus Points (extra credit):

Marietta Natural History Society Programs 5 points each
 Field Station 5-10 points each
 Other talks 5 points each

(Maximum of 25 points – not all events will qualify for extra credit)

Exams will be short answer, multiple choice, and essay.

Attendance:

Attendance may be taken at all class meetings. This helps me in counseling students who are having trouble in the class, and allows me to report attendance to the Academic Standing Committee, athletic coaches, etc. A token one point will be deducted for each absence (excused or unexcused); for most students this can easily be made up by a single extra credit event. Be aware that missing class may have repercussions beyond that single point, however.

Absolute maximum of 25 bonus points per individual.

Late Assignments will be given a grade of 5 points.

I reserve the right to give an "F" for the course to any student who does not complete any assignment to my satisfaction.¹

Plagiarism: Plagiarism is the misrepresentation of work done by others as your own. This can come in a variety of forms, including:

1. Copying another student's work.
2. Copying from a source without quotes or attribution.
3. Paraphrasing from a source without attribution.
4. Including photos or other images made by someone else without attribution.
5. A member of a team not contributing an equal amount but leaving his/her name on the product.

Plagiarism is one of many forms of academic dishonesty – Academic dishonesty is not allowed at Marietta College and will be dealt with appropriately. Sanctions may include a lowered grade (including a 0) for an assignment, failing the course (even if the cheating occurred on an assignment with only a small number of points allocated to it), or even expulsion from the college. See page 117 of the 2009-2010 catalog.

Any student needing additional help should consult one of the many sources of support available to you. These include me (the instructor), the Academic Resource Center, the Writing Center, your classmates, the textbook's online resources, the college counseling center, your advisor, and Jedi master Yoda. Anyone with documented learning disabilities (or anyone who suspects they may have such a disability) should consult me and the ARC as to appropriate accommodations.

“Students who believe that they may need accommodations due to a documented disability should contact the Academic Resource Center (Andrews Hall, Third floor, 376-4700) and the instructor as soon as possible to ensure that such accommodations are implemented in a timely manner. You must meet with the ARC staff to verify your eligibility for any accommodation and for academic assistance.”

¹ Always read the fine print!!!

Aquatic Biology Tentative List of Topics

Week	Topics
1 January 12-14	Introduction Physics of Water Reading: Physics of Water Lab: Splash
2 January 19-21	Physics of Water Water Chemistry Reading: Water Chemistry Lab: Electronic Water Quality Monitoring
3 January 26-28	Aquatic Habitats: Lakes Reading: Overview Habitats Wetlands Aquatic Habitats: Rivers and Streams Reading: Rivers and Streams Habitats Lab: Microcosms <i>Paper Topics Due (28)</i>
4 February 2-4	Aquatic Habitats: Oceans Reading: Overview Aquatic Habitats: Nearshore Marine Habitats Reading: Sandy Shores Rocky Shores Mangroves Lab: Dichotomous Keys / Identification
5 February 9-11	Aquatic Habitats: Coral Reefs Reading: Overview Fish Invertebrates Physics and Biology of Scuba Diving Lab: Dichotomous Keys / Identification <i>Paper Outlines/ Bibliographies Due (11)</i>
6 February 16-18	Exam 1 Lab: Microcosms
7 February 23-25	Respiration in Water Reading: Respiration Excretion in Water Reading: Excretion Lab: Plankton
8 March 2-4	Locomotion in Water Reading: Locomotion Senses in Water Reading: Senses Lab: Field Trip
March 9-11 Spring Break	
9 March 16-18	Feeding in Water Reading: Feeding Lab: Aquatic Sampling <i>Paper Final Drafts Due (18)</i>
10 March 23-25	Exam 2 Lab: Aquatic Sampling
11 March 30 April 1	Biological Water Quality Monitoring Reading: Volume I: The Role of Biological Data in Water Quality Assessment : - Read Parts A-F Lab: Aquatic Sampling
12 April 6-8	Biological Water Quality Monitoring Lab: Aquatic Sampling <i>Paper Rewrites Due (8)</i>
13 April 13-15	Local Watershed Action Lab: ID
14 April 20-22	Presentations Lab: ID

Final – Tuesday April 27th 2010 – 8:30 – 11:00 AM.

Practical: Friday April 30th, 3:00-5:30 PM.