ICHTHYOLOGY
Biology 3900/5900, Fall, 2013
Lecturer

David L. Bechler, PhD
dbechler@valdosta.edu
Office: Room 2030, Bailey Science Complex
Research laboratory: Room 2050, Bailey Science Complex
Phones: personal office 293-6063; main Biology office 333-5759

Lecture: Monday and Wednesday, 3:30-4:45 pm; Rm1024
Laboratory: Friday, 12:00-2:50 pm; Rm 1088/Fieldtrips (times do not include field trips, see below)
Objectives:

- All objectives meet University Educational Outcome on web page http://www.valdosta.edu/academic/VSUGeneralEducationOutcomes.shtml
- To develop an understanding of the phylogenetic/systematic relationships of extinct and extant fishes with an emphasis on evolution. To learn the basic ecology, behavior and life history patterns of key fish families and species
- To learn unique aspects of the biology of key representative fish families.

The following topics listed below under Lecture Topics will be covered in this course as time permits. The emphasis in lecture is on the systematics, life histories, behavior and ecology of fishes. The primary emphasis in lab will be on taxonomy and field biology of fishes.

Below is a list of fieldtrips for this semester. This list is tentative due to possible complications involving weather and other scheduling conflicts. Because of this some trips may be moved to different dates. Changes in lecture and fieldtrips will be announced as far in advance as is possible.

Lectures and Tests

Lecture tests will consist of primarily multiple choice and matching as well as possible labeling of a drawing or two. There will be two lecture tests during the semester worth 30% each of the lecture grade. The final exam will be comprehensive and will contain no essay type questions, but rather will be 100 matching or multiple choice questions, ~50% over old material and ~50% over new material not yet tested. The final will also be worth 40% of the lecture grade.

Lecture topics will follow the order of the list below. However, some information involving the behavior, ecology and zoogeography of specific taxa of fish will be discussed during the classification lectures. The purpose of this lecture scheme is to introduce biology topics to you using fish taxa as the examples of the topic.

Lecture Topics:

- Evolution (Chapter 11)
- Classification and biology of specific taxa (Chapters 12-15)
- Selected topics on: (A) Locomotion & Energetics of Swimming, (B) Life History (Growth, Reproduction, Fecundity, etc.), (C) Behavior, (D) Ecology, (E) Zoogeography. Which topics are discussed and their chapters will be announced in class after lectures on Classification have been completed.

Special note on lectures: While much of the lecture portion of the course involves the systematics and taxonomy of fishes, discussion of certain taxa will be used to introduce topics of importance in biology. Examples include the Salmonidae—fish migrations, Petromyzontidae—parasitism, Poeciliidae—live bearing, and the Amblyopsidae—regressive evolution. Therefore, keep in mind that special topics introduced while discussing various taxa are being done so as to broaden your understanding of biology in general. Also, these topics will be tested in the tests

given during the semester and can be reviewed in the textbook by looking up and reading material in the book at specific topics.

Lecture Tests:

- Test 1—Announced one week prior to test
- Test 2—Announced one week prior to test
- Final—6 Dec, 5-7 pm

Reading assignments: During the semester, reading assignment from the lecture textbook will be announced in class and placed on the BlazeView Ichthyology Web Site. These assignments will be tested on in lecture tests, but may not necessarily be lectured on in class, so you will need to read the material.

Laboratory and Fieldtrips:

Laboratory activities will be as follows:

1. Learn to identify fishes in the VSU collection.
2. Sort, identify, and label any uncatalogued specimens in the collection.
3. Harden, preserve, and label specimens collected in the field during class fieldtrips and during personal collecting trips.
4. Catalog and record all fish preserved during the semester in the VSU Herpetology collection using Microsoft Access.

Hardening and Preservation: Fish will be hardened in 10% formalin and preserved in 55% isopropyl alcohol. All specimens will be identified and the appropriate waterproof label placed in the jar or attached to the specimen. Labels will be completed using water insoluble ink. Pens and labels will be provided in class. Do not place labels in jars of alcohol without allowing at least one day for the labels to dry. After properly labeling the jars, the dates, locations, and numbers of each, students must input the collection data into a computer base that must be turned in to the GA DNR.

Field trips will be held as listed below during regularly scheduled labs and during one weekend trip to the coast, Friday through Sunday. Friday trips may not get back until 3-5 p.m depending on the particular activity involved and the location of the collecting site. Therefore, anyone who must leave early may drive their own vehicle and meet us at the collecting sights or travel in caravan style.

Everyone must attend at least three of the field trips. Otherwise, you are encouraged to attend as many trips as possible since you'll learn more of the biology of fishes this way.

2013 Laboratory and Fieldtrip Schedule. This schedule is **tentative** and may be changed based on weather and other events. If you are not attending a fieldtrip, you should use your time to study fish specimens in the laboratory. If there is no fieldtrip is listed (Dates in bold type), lab will consist of identifying fish, cataloging them, placing on shelves and studying for midterm and end of semester lab tests.

- 16 Aug— Lab introduction to teaching collection, fish identification discussion
- **23 Aug**— Fieldtrip, Suwanoochee Cr & Suwanee R, Fargo, GA. (May eat dinner in Fargo)
- 30 Aug— Sort, ID, and prepare collected specimens for the VSU collection.
- **6 Sept**— Fieldtrip, Guest Mill Pond, Naylor or Howell, GA. .
- **13 Sept**— Fieldtrip, Withlacoochee River and Pine Grove Campus Farm
- 20 Sept— Sort, ID, and prepare collected specimens for the VSU collection.
- 27 Sept Oct—Laboratory test 1, primitive fishes, time of test 2 pm
- **4-6 Oct**— Atlantic coast fieldtrip, Sapelo or Jekyll Island, GA. (Return late Saturday or Sunday early afternoon depending on location).
- 11 Oct— Sort, ID, and prepare collected specimens for the VSU collection.
- 18 Oct— Study for laboratory test 2

- **25 Oct**— Fieldtrip, Alapahoochee River, Hwy 94 or Culpepper Rd, GA
- 1 Nov— Sort, ID, and prepare collected specimens for the VSU collection.
- 8 Nov— Gyotaku, the Art and Biology of Fish Prints. Will be moved to a different room.
- 15 Nov—Study for laboratory test 2
- 22 Nov — Laboratory test 2, derived fishes.

Laboratory Access: So you can study the specimens of fish that will be placed on the lab benches for the tests, you will have access to room 1088 on evenings and weekends. You must see public safety to gain access to the building if it is locked and present a valid ID card. The keypad on the door will allow you access to the laboratory room.

Laboratory Grades: The lab grade will be based on the following three items:

- 10% for participation in three field trips. This means that you not only go on the fieldtrip, but that you actively participate in collecting.
- 5% on preparation of specimens returned to the lab and participation in cataloging of the VSU ichthyology collection.
- 5% on downloading of FishBase data. Will be discussed in lecture.
- 80% on the tests given in lab. Each lab test will be worth 100 points and the assignment worth 200 points.

Course Grade

The final grade for the course will be as follows: Grade = 0.75(Lecture Grade) + 0.25(Lab)

Important Dates Fall 2013

• 2 September	Labor Day. No classes
• 3 October	Midterm. Last day to drop classes*
• 25-29 November	Thanksgiving break, no classes

No one will be dropped after the last drop date unless there are extenuating circumstances beyond your control.

Alcohol Policy:

There will be no alcoholic beverages taken on fieldtrips.

Hazardous Fieldtrip Policy

See Hazardous Fieldtrip Policy. (See on web and as handout)

Office Hours: Tuesday 12-4 pm & Thursday, 8-4 pm. Note I may be in the field some days so will be unavailable.

David L. Bechler

Office:	BC 2030
Office Phone:	229-293-6063
E-mail:	dbechler@valdosta.edu
Web Page*:	http://chiron.valdosta.edu/dbechler/default.htm