

## Fish Physiology (Biol 4000/6000)--Fall 2016

**Instructor:** Dr. Theresa J. Grove  
**Office:** BC 1099  
**Office hours:** Monday 8:00-9:00  
Tuesday 3:30-4:30  
Wednesday 9:00-10:00  
By appointment  
**Phone:** (229) 333-5336  
**Email:** tjgrove@valdosta.edu (I do NOT use Blazeview for email)

### Course goals and objectives

- Examine the physiology of fishes including the adaptive significance of physiological processes in fishes adapted to different environments.
- Learn about the latest findings in physiology of fishes in the primary literature.
- Learn some of the techniques that are used to study fish physiology.
- Continue to gain experience analyzing and interpreting experimental data.
- Continue to practice scientific writing to learn to clearly, succinctly and professionally express yourselves.

### Textbook

Biology of Fishes (3<sup>rd</sup> edition) Q. Bone and R. H. Moore (2008)

### Grades

Exams (4 at 100 points each)	400 points
Assignments (various points)	~50 points
Graduate students: Grant Proposal	100 points

### Grade Scale

A 90-100%  
B 80-89%  
C 70-79%  
D 60-69%  
F < 60

### Slides

I will post slides on Blazeview by ~5:00 p.m. the day before lecture. I will not give students access to my "complete" slides. If you miss a class it is your responsibility to get the notes from another student.

### Exams

Four lecture exams and a cumulative final will be given throughout the semester. Exams will be 100 points and may consist of a variety of types of questions that will include (but aren't limited to) multiple choice, labeling, fill in the blank, short answer and essay. It is the instructor's prerogative to accept (or not accept) an excuse for a missed exam. If an absence is approved, the instructor reserves the right to change the format of the exam. No exam grades will be dropped. The final will be cumulative; the 4<sup>th</sup> lecture exam and the final will consist of all multiple choice questions.

### Assignments

Throughout the semester you will be given primary literature to read. Students will be assigned to explain various aspects of the paper and will be given questions to answer about the research.

### Grant Proposal

Graduate Students are required to write a grant proposal examining an aspect of fish physiology following NSF guidelines for a preliminary proposal. I will meet individually with the graduate students to discuss this project. Due November 18.

### Attendance Policy

Attendance in lecture is highly recommended; patterns of attendance will be taken into account to determine borderline grades.

### Common Sense Information

Arrive on time to lecture. Turn off cell phones during lecture; there is no reason you should be texting or calling anyone. Don't talk during lecture; if you don't understand something or didn't hear something ask. Unless it's an emergency (and texting does not constitute an emergency) do not get up in the middle of lecture, leave and come back. Bring tissue with you if you are sick or have a cold. I do not let students leave the room during an exam.

## **Title IX Statement**

“Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included. Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, [titleix@valdosta.edu](mailto:titleix@valdosta.edu), 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.”

## **Access Statement**

“Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farbar Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: [access@valdosta.edu](mailto:access@valdosta.edu).”

## **Tentative Schedule of Class** (I may adjust content and exam dates if necessary)

### August

- 16 Introduction
- 18 Chapter 1: Diversity of Fishes
- 23 Chapter 2: Fishes and their Habitats
- 25 Chapter 3: Muscles
- 30 Muscles (cont'd)

### September

- 1 Thermogenesis (handout)
- 6 **Exam 1**
- 8 Chapter 4: Buoyancy
- 13 Chapter 5: Gas Exchange, Blood and Circulatory System
- 15 Gas Exchange (cont'd)
- 20 Aerial Respiration (handout)
- 22 Chapter 6: Osmoregulation and Ion Balance
- 27 **Exam 2**
- 29 Osmoregulation (cont'd)

### October

- 4 Chapter 7: Food and Feeding
- 6 Food and feeding (cont')
- 11 **Fall Break**
- 13 Chapter 8: Reproduction
- 18 Reproduction (cont'd)
- 20 Chapter 9: Endocrine Systems
- 25 **Exam 3**
- 27 Stress (handout)

### November

- 1 Environmental Adaptation (handout)
- 3 Environmental Adaption (cont'd)
- 8 Chapter 10: Sensory Systems and Communication
- 10 Sensory Systems (cont'd)
- 15 Electrogenesis and Electroreception (handout)
- 17 Chapter 11: The Nervous System
- 22 Chapter 12: Immune System
- 24 **Thanksgiving**
- 29 **Exam 4**

### December

- 1 Review

**December 8 8:00-10:00 Cumulative Final Exam**