Fish Biology (ZOO 4454)
Spring 2018

Professor: Joel Trexler; Department of Biological Sciences
Office (BBC): MSB room 361 (phone: 305-348-1966)

Section:
B51 (BBC)
Tuesday 11-12:15; Location MSB room 111

U01 (MMC)
Thursday 11-12:15; Location: OBCC 119

Office Hours:
Tuesday 9:30 -10:45 at BBC, MSB room 361
Thursday 9:30 -10:45 P.M. at MMC, OE 148
Other times by appointment

Required Text: Helfman, G.S., B.B. Collette, D. E. Facey, and B.W. Bowen. 2009. The Diversity of Fishes, 2nd Ed. Wiley-Blackwell.

This class is being taught in a 'hybrid' format. Pre-recorded lectures will be made available for listening prior to each class. Lectures have been recorded using PowerPoint and each student is expected to have access to this software. Each student must listen to the assigned lecture before class and be prepared for a short test on the materials covered.

Week	Sec. B52	Sec. U01	Topic	Readings
1	Jan. 9	Jan. 11	Course orientation, history ichthyology	Chapter 1
2	Jan. 16	Jan. 18	Systematics and diversification	Chapters 2, 11
3	Jan. 23	Jan. 25	Form and external anatomy	Pages 33, 35-39
4	Jan. 30	Feb. 1	Skeleton and muscles	Pages 23-35, 41, 44, 124-125
5	Feb. 6	Feb. 8	Buoyancy and respiration	Pages 50-52, 57-66, 68-70
6	Feb. 13	Feb. 15	Exam One	
7	Feb. 20	Feb. 22	Blood, circulation, homeostasis	Pages 45-48, Chapter 7
8	Feb. 27	Mar. 1	Feeding, nutrition, excretion	Pages 52, 119-124, 126
9	Mar. 6	Mar. 8	Growth and locomotion	Pages 111-119, 129, 159-161
10	Mar 13	Mar 15	Spring Break – No Class	
11	Mar. 20	Mar. 22	Reproduction and life history	Pgs 52-54,130-136, 153-156, 511-522
12	Mar. 27	Mar. 29	Sensory systems and behavior	Chapter 6, 21
13	Apr. 3	Apr. 5	Exam Two	
14	Apr. 10	Apr. 12	Zoogeography	Chapter 16
15	Apr. 17	Apr. 19	Conservation and management	Chapter 26
16	Apr. 25	Apr. 27	Final Exam week – exam times TBA	

Purpose: The purpose of this class is to provide an overview of the biology of fishes, along with a general appreciation of the great diversity of taxa in this group. To meet these goals, we will cover both marine and freshwater taxa with equal emphasis.

Prerequisites: BSC 1010 and BSC 1011 (General Biology I and II), PCB 3043 (Ecology)

Student responsibilities: You are expected to do the assigned reading, listen to the recorded lectures, complete short tests at the start of class, participate in class discussions, prepare and present an oral presentation providing an overview of the biology of an assigned family of fishes. Evidence of cheating on tests or plagiarism of materials for your oral presentation will be adjudicated following the FIU code of student conduct found in the Student Handbook that is available from the Current Students webpage (http://www.fiu.edu/current-students/).

Grades: Class grades will be based on your performance on tests, quizzes, and your oral presentation. There will be at least eight short tests (20%), two long tests (20% each); and a comprehensive final exam (25%). Your oral presentation will account for the remaining 15%.

Final grades will be determined on a 10-percentile scales. Students earning 90% or more of possible tests will earn a grade of A, those earning between 80% and 89%, will earn a grade of B, those earning between 70% and 79% will earn a grade of C, those earning between 60% and 69% will receive a grade of D, and those earning less than 60% will receive a grade of F.

Short tests: Short test (15 minutes) will be offered at the start of each class. Short Tests will include a ***reflection question*** and several ***vocabulary questions***. Reflection questions will be from the online lecture and scored on effort scale (points for using material from lecture and/or textbook in answer). Scoring: 0 (question not answered), 1 (answer partially correct), 2 (answer correct and used information from lecture/text).
Vocabulary questions (family names and questions from online lectures): multiple choice, matching (sometimes on a diagram), fill-in-the-blank (family names only)
Scoring: One point for each correct answer.
Exams (in-class time): labelling diagrams, multiple choice, fill-in-the-blank, short answer
Scoring: Points only awarded for correct answers to labels, fill-in-the-blank, and multiple-choice questions. Partial credit will be awarded at the discretion of the instructor for imperfect answers.
Final exam (cumulative)
Scoring: same as regular in-class exams.
Oral presentations (weeks 14 and 15)
Each team of two students will be assigned a family of fishes found in Florida waters and give an oral presentation providing an overview of that family's (1) habitats, (2) distribution, (3) feeding ecology, (4) reproductive ecology, (5) life history (maturation, longevity), (6) human interactions, and (7) any unique adaptations, features, or place in evolutionary history. You can choose to focus on a subset of species from your assigned family. Will work in groups of two by a.) dividing up the first six topics any way you choose and collaborating on the seventh topic, b.) each team member uses half of the 12-minute presentation time to present their topics, and c.) each student evaluated based on their individual work for the presentation.

Scoring: Scored on scale of 0-1 (low), 2-3 (medium), 4-5 (high) for content, presentation style, and audience interaction. Content (**low** = did not cover all assigned topics, information inaccurate or not clear, neither theory nor literature used as support, content presented at too elementary or sophisticated a level; **medium** = incomplete details on some topics, some inaccuracies, some portions are too basic or sophisticated for audience, some reference to theory or literature; **high** =

covered all topics in effective detail, information supported by references to theory or literature, accurate and complete explanation of concepts); Presentation style (**low** = poorly organized material, confusing or hard to read graphics, graphics and text with little or no connection to topic, unable to complete presentation within allotted time frame; **medium** = logical organization of ideas, most graphics readable, connection of some graphics to topic not clear, slightly over allotted time frame; **high** = well organized material, effective use of graphics, graphics support the points of the presentation, within allotted time frame); Audience Interaction (**low** = mumbling, little eye contact with audience, not able to answer audience questions; **medium** = good volume, some eye contact with audience, able to partially address audience questions; **high** = maintained audience attention, clear enunciation and good volume, maintained eye contact with audience, gave clear and accurate answers to questions).

Last date to drop with a DR grade: March 19, 2018

If you miss a class for a legitimate and verifiable case of illness or an emergency, I will provide you with an opportunity to make-up missed assignments and quizzes, but you must arrange this with me immediately upon your return to class.

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and to honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.