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Field Studies in Marine Fish Biology and Ecology Course Details

Instructors:

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Course Dates: June 3-21, 2019 (Monday-Friday for 3 weeks)

Course Location: DeFelice Marine Center, Cocodrie, Louisiana

Course Synopsis: A field-based assessment of marine fish anatomy, reproduction, physiology, ecology and behavior. Students will learn the theoretical foundation and diverse observation, quantification and analytical techniques involved in the scientific study of fish biology and ecology. Students will gain practical experience in various collection techniques, dissecting, and performing basic physiological and behavioral analyses. Students will learn the fundamental theories underlying the scientific study of marine fish biology and ecology and apply a broad suite of techniques to collect and analyze data. This course is a field-oriented, scientific approach to learning about fishes. [Click here to read the course details.](#)

Prerequisites: C or better in at least 8 hours of introductory biology courses.

Student Outcome Objectives: To expose students to the wide array of variation in fish morphology, physiology, behavior and ecology. Upon completion of this course, the student will:

- Distinguish the external and internal anatomy of various marine fish taxonomic groups
- Describe the differences and similarities among marine fish reproductive life histories
- Know basic physiological concepts and strategies used by marine fish groups and how this affects their interaction with the environment and surrounding ecosystem
- Understand and know how to assess the trophic ecology of marine fish
- Understand behavioral triggers and strategies of different marine fish groups
- Understand the adaptive value of animal behavior and have hands-on experience in the study of fish behavior
- Explore how marine and estuarine fish behavior can be observed, measured and analyzed during field studies and laboratory experiments
- Understand how behavioral flexibility permits fish to respond and cope with environmental changes and anthropogenic perturbations

Course Requirements: Each student is required to:

1. Attend all course lectures. Three unexcused absences from lecture will result in the student receiving an FEA (failed due to excessive absences).
2. Attend all field trips. More than one unexcused absence from a field trip will result in the student receiving an FEA (failed due to excessive absences).
3. Read and become familiar with material in all assigned readings prior to attending class.
4. Participate in three examinations.
5. Conduct themselves in a manner respectful, harmless, and non-disruptive to the instructors and fellow students in lecture room, field activities and the laboratory.
6. Accept and abide by all other parts and provisions of this syllabus.

Course Content: *(activities and content sequence is subject to change)*

Week 1: External and Internal Anatomy, Reproduction, Nutrition and Feeding Ecology, Vision, Sight, Hearing, and Olfaction

Week 2: Salinity Tolerance/Osmoregulation, Hypoxia/Respiratory Physiology, Buoyancy, Temperature Tolerance, Thermoregulation, Deep Sea Environments and Adaptive Theories,

Week 3: Introduction to the Principles of Animal Behavior, Foraging Behavior and Antipredator Strategies, Function and Mechanisms of Shoaling, Animal Behavior and Conservation

Course Contact: General questions about the course can be directed to the Associate Director of Education and Outreach, Murt Conover, mconover@lumcon.edu

How to apply: Applications for Summer Courses and Scholarships can be downloaded from the 2019 Summer Courses page of the LUMCON Website. [Click here](#) to go to the courses page.