

**University of Southern Mississippi Gulf Coast Research Lab  
Summer Field Program 2018**

**Marine Animal Behavior COA 442/542, 442L/542L  
Summer Session II Tentative Syllabus**

**Instructor:**

**Instructor:** Virginia Fleer (Ph.D.)  
**Telephone:** 228-806-8604  
**E-mail:** virginia.fleer@gmail.com  
**Website:** <http://gcrmarineab.weebly.com>

**Course Description:**

This specialized course will provide an in-depth exploration of animal behavior in marine organisms, including the physiological and ecological aspects of behavior. The course will introduce students to techniques for observing animal behavior in the field and laboratory, designing and conducting behavioral experiments, and collecting and analyzing behavioral data. The course will consist of lectures, field trips, and laboratory projects designed to provide students with hands-on experience in marine animal behavior.

**Credits:** 5 total (3 lecture and 2 lab)

**Prerequisites:** Two semesters of biology or permission of instructor.

**Course Objectives:**

1. Students will gain an understanding of animal behavior in general, with a specific emphasis on examples of behavior in marine organisms.
2. In the laboratory portion of this course, students will learn how to design and set-up experiments to measure behavioral responses of marine organisms.
3. Students will gain hands-on experience conducting experiments, analyzing the results statistically, and interpreting the findings with respect to how behavior affected the results.

**Textbook & Course Materials**

- No text is required, but four texts will be used in this course to present lecture and laboratory material:
  - **Animal Behavior: An Evolutionary Approach** 10th edition by Alcock
  - **Reef Life: Natural History and Behaviors of Marine Fishes and Invertebrates** by Denise Nielsen Tackett & Larry Tackett

- **Measuring Behaviour: An Introductory Guide** 3rd edition by Paul Martin and Patrick Bateson
- **Field and Laboratory Exercises in Animal Behavior** by Chadwick Tillberg and Michael Breed
- It is necessary that students are prepared to conduct hands-on field research for the laboratory portion of this course. Below is a generalized list of necessary supplies students will need.
  - Closed toe shoes (MANDATORY on all vessels)
  - Sunscreen, sunglasses, insect repellent
  - Small notebook for recording experimental results

## Course Structure

This course will be divided into a lecture (3 credit hours) and a lab (2 credit hours) component.

## Lecture

Lectures will take place in the morning generally and will cover general topics related to Marine Animal Behavior. Incomplete lecture notes will be provided on the website prior to class. Supplemental readings, such as peer-reviewed journal articles, will also be made available on the class website.

### Grading:

Midterm Exam: 30%

Final Exam: 30%

Term Paper: 20%

Supplemental Reading Presentation: 10%

Attendance: 10%

## Laboratory

The goal of the laboratory portion of this course is to provide students with hands-on learning opportunities. To this regard, students will be responsible for designing and setting up experiments to study animal behavior. Field trips will also be utilized to analyze marine organism behavior.

### Grading:

Debate 1: 25%

Debate 2: 25%

Class Presentation: 25%

Laboratory Journal: 10%

Participation: 15%

## **Graduate-level Curriculum**

Graduate students will be required to focus on primary literature to develop a 20-minute presentation and 5-page paper detailing a specific conservation issue. The presentation and paper must include a minimum of 5 peer-reviewed literature sources that provide a background of the conservation topic, previous and current conservation policies, and future directions.

## **Topic Outline/Tentative Lecture Schedule**

### **Week 1**

- ❖ **Course overview; Introduction; Behavioral Ecology**
  - Chapters 1 and 2
- ❖ **Evolution of Altruism and Social Behavior**
  - Chapters 2 and 3
- ❖ **Communication**
  - Chapter 4
- ❖ **Avoiding Predators and Finding Food**
  - Chapter 5

### **Week 2**

- ❖ **Habitat Selection, Territoriality, and Migration**
  - Chapter 6
- ❖ **Reproductive Behavior**
  - Chapter 7
- ❖ **Mating Systems; Jeopardy review for midterm**
  - Chapter 8
- ❖ **Midterm Exam**

### **Week 3**

- ❖ **Parental Care**
  - Chapter 9

- ❖ **Proximate and Ultimate Causes of Behavior**

- Chapter 10

- ❖ **The Development of Behavior**

- Chapter 11

- ❖ **Nervous Systems and Behavior**

- Chapter 12

#### **Week 4**

- ❖ **Influence of Neurons and Hormones on Behavior**

- Chapter 13

- ❖ **Comparisons between Animal and Human Behavior**

- Chapter 14

- ❖ **Specific animal behavior topics (to be determined by students)**

- ❖ **Jeopardy review for final; Term papers due**

- ❖ **Final Exam**

**\*\*NOTE: A more detailed syllabus will be provided on the first date of class.**

### **USM Academic Honesty Statement**

Students at The University of Southern Mississippi are expected to practice academic honesty in all their work at the University. (<https://www.usm.edu/institutional-policies/policy-acaf-pro-012>). When cheating is discovered, the faculty member may give the student an F on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the dean of students.

In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct and may be grounds for probation, suspension or expulsion. Academic dishonesty also includes any submission of false documents such as add/drop forms, substitutions, special requests, etc.

Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.

### **ADA Syllabus Statement**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical

disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:

The University of Southern Mississippi

Office for Disability Accommodations

118 College Drive # 8586

Hattiesburg, MS 39406-0001

Voice Telephone: 601.266.5024 or 228.214.3232

Fax: 601.266.6035

\*Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1.800.582.2233 (TTY) or email ODA at [oda@usm.edu](mailto:oda@usm.edu).