

**University of Southern Mississippi Gulf Coast Research Lab
Summer Field Program 2017**

Marine Conservation COA 490/490L
Summer Session II Tentative Syllabus

Instructor:

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Course Description:

This course will introduce students to conservation biology and ecology with a focus on marine and coastal ecosystems. Topics may include biodiversity, marine ecosystem processes and threats, conservation of habitat and species, and human impacts, solutions, and policy. The course will consist of lectures, field trips, and laboratory exercises designed to provide students with hands-on experience in marine conservation biology.

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 the important terminology, key issues, and policies of marine conservation through lectures, discussions, and exams.
2. Current and local marine conservation efforts will be presented via supplemental readings and guest lectures to expose students to real examples of conservation science and the on-going struggle between economics and ecology.
3. Through field research (boat and land-based), students will have hands-on learning opportunities and be immersed in the marine environment. These experiences will be used to tie together material presented during lectures and reinforce core issues surrounding the field of marine conservation.

Textbook & Course Materials

- No text is required, but it is highly suggested students obtain a copy of **Marine Conservation Biology: The Science of Maintaining the Sea's Biodiversity** (Eds. Norse and Crowder), Island Press, 2005. Lectures will be based off this textbook with supplemental readings that will be provided.
- 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 field supplies students will need.
 - Closed toe shoes (MANDATORY on all vessels)
 - Sunscreen, sunglasses, insect repellent
 - Any fishing equipment students want to bring

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 the emerging field of Marine Conservation. 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. More specialized guest lectures will be given on the local conservation efforts of various marine species.

Grading:

- Midterm Exam: 30%
- Final Exam: 30%
- Term Paper: 20%
- Supplemental Reading Presentation: 10%
- Attendance: 10%
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Laboratory

The goal of the laboratory portion of this course is to provide students with hands-on learning opportunities. To this regard, local land-based field trips to aquaculture facilities, turtle and bird nesting habitats, and the New Orleans Aquarium, as well as boat trips aboard the RV Hermes and RV Jim Franks,

will be utilized to immerse students in the field of Marine Conservation. Additionally, two class debates (topics TBA) will be held to discuss the various viewpoints of fishermen, managers, and scientists on marine conservation topics. Students will work in groups and have some in-class time to prepare.

Grading:

- Debate 1: 25%
- Debate 2: 25%
- Class Presentation: 20%
- Field Journal: 10%
- Attendance: 10%
- Participation: 10%

Topic Outline/Tentative Lecture Schedule**Week 1**

- **July 3rd: Course overview; Introduction; Marine conservation history**
 - Chapters 1 and 2
- **July 4th: No class—Independence Day**
- **July 5th: Marine population biology and conservation policy**
 - Chapters 3 and 4
- **July 6th: Hermes trip—Location TBA**
- **July 7th: Extinction risks; Behavioral approaches**
 - Chapters 5 and 6

Week 2

- **July 10th: Nutrient enrichment; Bioinvasions**
 - Chapters 7 and 8
- **July 11th: RV Franks trip—Chandeleur Islands (Seagrass study)**
- **July 12th: Diseases; Biodiversity; Marine system stressors**
 - Chapters 9 and 10
- **July 13th: The threat of fisheries I. (not on midterm exam); Jeopardy review for midterm**
 - Chapters 11 and 12

- **July 14th: Midterm Exam**

Week 3

- **July 17th: Hermes trip—Location TBA**
- **July 18th: The threat of fisheries II.**
 - Chapters 13 and 14
- **July 19th: Marine protected areas; Marine reserves**
 - Chapters 16 and 17
- **July 20th: Place-based ecosystem management**
 - Chapter 18
- **July 21st: Managing fisheries effectively**
 - Chapters 15, 20, and 21

Week 4

- **July 24th: Recovering populations; Restoring ecosystems**
 - Chapter 23
- **July 25th: RV Franks trip—Location TBA**
- **July 26th: Issues, solutions, and the future of marine conservation**
- **July 27th: Jeopardy review for final; Term papers due**
- **July 28th: Final Exam**

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

Possible Guest Lecturers (Dates TBA)

- **Emily Satterfield (DMR): Artificial reefs and the rigs to reef program**
- **Jill Hendon (GCRL): Shark conservation efforts in the nGOM**
- **Jim Franks (GCRL): Pelagic sargassum and fishes in the Gulf and Caribbean**
- **Alex Fogg/another lionfish expert: Invasive lionfish in the Gulf**
- **Harriet Perry (GCRL): Blue crab aquaculture**

Tentative Laboratory Activities

Debate 1: July 12th

Debate 2: July 21st

Class Presentations: July 25th and 26th

Sea Grass Study: July 11th

Possible Field Trips:

- Auburn Shellfish Aquaculture Facility (Dauphin Island, AL)
- Sea Turtle Conservancy (Gainesville, FL)
- Cedar Point Aquaculture Facility (Ocean Springs, MS)
- Audubon Aquarium of the Americas (New Orleans, LA)

****NOTE: A more detailed laboratory schedule will be provided on the first day of class. Field trips listed here are just possibilities and subject to change.**

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.