Instructor:

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

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 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 repellant

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%

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 Crystal River, 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. The class will also help with a local marsh restoration project, where students will have the opportunity to learn about and get involved with coastal restoration. 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: 25%
Field 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; Marine conservation history
  - Chapters 1 and 2
- Marine population biology and conservation policy
  - Chapters 3 and 4
- Extinction risks; Behavioral approaches
  - Chapters 5 and 6

**Week 2**
- Nutrient enrichment; Bioinvasions
  - Chapters 7 and 8
- Diseases; Biodiversity; Marine system stressors
  - Chapters 9 and 10
- The threat of fisheries I.; Jeopardy review for midterm
  - Chapters 11 and 12
- Midterm Exam

**Week 3**
- The threat of fisheries II.
  - Chapters 13 and 14
Marine protected areas; Marine reserves
  > Chapters 16 and 17

Place-based ecosystem management
  > Chapter 18

Managing fisheries effectively
  > Chapters 15, 20, and 21

Week 4

Recovering populations; Restoring ecosystems
  > Chapter 23

Issues, solutions, and the future of marine conservation

Specific conservation topics (to be determined by students)

Jeopardy review for final; Term papers due

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

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.