**Marine Conservation**

**COA 450/550 and 450L/550L**

**Summer Session I 2020**

**Online: 5 credits (3 lecture and 2 lab)**

**Contacting Your Instructor(s)**

Name: Virginia (Fleer) Schweiss, Ph.D.

Office hours: By appointment

Email: virginia.fleer@usm.edu

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Teaching Assistant:

Name: Emelia Marshall

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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, virtual field trips, microplastic sample processing, and online laboratory exercises designed to provide students with 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 to expose students to real examples of conservation science and the on-going struggle between economics and ecology.
3. Through the processing of microplastics samples, students will have hands-on learning opportunities. Virtual lab sessions will immerse students 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.

**Course Materials and Requirements**

* No text is required for this course and supplemental readings will be provided on Canvas.
* Students must have access to a computer and internet connection in order to check email and Canvas daily.
* Students will be expected to process microplastic samples from the Gulf of Mexico (water will be vacuum filtered and the filters will be mailed to students). In order to view and identify microplastics, students will need to have access to the following supplies:
* Inexpensive microscope (Must have at minimum a 10x objective; 40x is preferred)
* Forceps or needle-nosed tweezers (1 required but 2 recommended)
* 1 pack of petri dishes (Most come in a pack of 10; divided ones are preferred)

**Online Learning Guidelines**

The online lecture portion of this course will be conducted asynchronous, with the exception of exam and presentation days. This means students will not be required to be present online during lecture most days. Lectures will be provided in various formats to facilitate student online learning, including video-recorded lectures and notes in PDF format.

The online laboratory portion of this course will be conducted both asynchronous and synchronous depending on the lab assignment (see tentative schedule below). For the virtual field trips and lab handouts, students can complete these on their own time. For sample processing days and debates, we will utilize the live chat tool in Canvas.

**Grading Policies and Calculation**

**Lecture Grading: 500 points total**

Homework Assignments: 30% (150 pts.)

Midterm Exam: 20% (100 pts.)

Final Exam: 20% (100 pts.)

Term Paper: 20% (100 pts.)

Supplemental Reading Presentation: 10% (50 pts.)

**Laboratory** **Grading: 500 points total**

Laboratory Handouts: 25% (125 pts)

Debate #1: 10% (50 pts.)

Debate #2: 10% (50 pts.)

Microplastics Data: 10% (50 pts.)

Microplastics Lab Report: 35% (175 pts.)

MPA Design: 10% (50 pts.)

**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.

**Academic Integrity Statement**

All students at the University of Southern Mississippi are expected to demonstrate the highest levels of academic integrity in all that they do. Forms of academic dishonesty include (but are not limited to):

* Cheating (including copying from others’ work)
* Plagiarism (representing another person’s words or ideas as your own; failure to properly cite the source of your information, argument, or concepts)
* Falsification of documents
* Disclosure of test or other assignment content to another student
* Submission of the same paper or other assignment to more than one class without the explicit approval of all faculty members’ involved
* Unauthorized academic collaboration with others
* Conspiracy to engage in academic misconduct

Engaging in any of these behaviors or supporting others who do so will result in academic penalties and/or other sanctions. If a faculty member determines that a student has violated our Academic Integrity Policy, sanctions ranging from resubmission of work to course failure may occur, including the possibility of receiving a grade of “XF” for the course, which will be on the student’s transcript with the notation “Failure due to academic misconduct.” For more details, please see the University’s Academic Integrity Policy: <https://www.usm.edu/institutional-policies/policy-acaf-pro-012> Note that repeated acts of academic misconduct will lead to expulsion from the University.

**Academic Support Resources**

Please see our Student Success Website: <http://www.usm.edu/success> for information on where you can find tutoring and other academic assistance, as well as the location of key resources on campus.

If a student believes that they have a disability which is covered by the Americans with Disabilities Act (ADA) and makes them eligible to receive classroom or housing accommodations, they should contact the Office for Disability Accommodations (ODA) for information regarding the registration process.  Disabilities covered by the ADA may include but are not limited to ADHD, learning disabilities, psychiatric disabilities, physical disabilities, chronic health disorders, temporary illnesses or injuries and pregnancies. Students should contact ODA if they are not certain whether their documented medical condition qualifies for ODA services.  Students are only required to disclose their disability to the Office for Disability Accommodations.  All information submitted to ODA by the student is held with strict confidentiality.

**Contact information:**

The University of Southern Mississippi

Office for Disability Accommodations

118 College Drive # 8586

Hattiesburg, MS 39406-0001

Voice Telephone: 601.266.5024 or 228.214.3302 Fax: 601.266.6035

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

**Mental Well-Being Statement**

USM recognizes that students sometimes experience challenges that make learning difficult. If you find that life stressors such as anxiety, depression, relationship problems, difficulty concentrating, alcohol/drug problems, or other stressful experiences are interfering with your academic or personal success, consider contacting Student Counseling Services on campus at 601-266-4829. More information is also available at [https://www.usm.edu/student-counseling- services](https://www.usm.edu/student-counseling-%20services). All students are eligible for free, confidential individual or group counseling services. *In the event of emergency, please call 911 or contact the counselor on call at 601-606-HELP (4357).*

**Nondiscrimination Statement:**

The University of Southern Mississippi offers to all persons equal access to educational, programmatic and employment opportunities without regard to age, sex, sexual orientation, disability, pregnancy, gender identity, genetic information, religion, race, color, national origin, and/or veteran status pursuant to applicable state and federal law.

**Confidentiality and Mandatory Reporting**

As an instructor, one of my responsibilities is to help create and maintain a safe learning environment on our campus.  I also have a mandatory reporting responsibility related to my role as a faculty member.  I am required to share information regarding sexual misconduct or information about a crime that may have occurred on USM’s campus with certain University officials responsible for the investigation and remediation of sexual misconduct. The information will remain private and will only be shared with those officials necessary to resolve the matter.  If you would like to speak in confidence, resources available to students include Confidential Advisors with the Shafer Center for Crisis Intervention, the Counseling Center, Student Health Services, and Clergy.  More information on these resources and University Policies is available at <https://www.usm.edu/sexual-misconduct>.

**Class Schedule**

I recognize that changing a field course to an online format can be challenging. Please be sure to check your email and Canvas daily for changes to the tentative schedule, stay in communication with me, and let me know of any changes in your situation and what you need. It is critically important that you stay on top of this class and take care of yourself as we work through the unexpected challenge of this time.Below is a tentative schedule that I reserve the right to change—you will always be notified of any changes. Assignments used in grade calculation are in bold.

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| --- | --- | --- | --- |
| *Date* | *Lecture* | *Laboratory* | *Assignments Due (Due by 11:55 PM on specified date)* |
| **MON 6/1** | Introduction to the course and overview | Microplastics introduction and sample processing methodology |  |
| **TUES 6/2** | History of Marine Conservation | Discuss 1st debate topic; Debate preparation |  |
| **WED 6/3** | Marine Population Biology and the Allee effect | Microplastic sample processing | **Lecture HW #1** |
| **THURS 6/4** | Marine Conservation Issues and Extinction Risks | Ocean acidification lab **(handout)** |  |
| **FRI**  **6/5** | Behavioral Approaches to Marine Conservation | Ka’ena Point Albatross Reserve Virtual Field Trip **(handout)** | **Lecture HW #2** |
| **MON 6/8** | Nutrient Overenrichment | Microplastic sample processing | **Lecture HW #3** |
| **TUES 6/9** | Bioinvasions | Invasive Species Lab **(handout)** |  |
| **WED 6/10** | Diseases | Debate preparation | **Lecture HW #4** |
| **THURS 6/11** | Decreasing biodiversity | **Debate #1** | **Lecture HW #5** |
| **FRI**  **6/12** | Marine system stressors | Virtual field trip to various US marine reserves **(handout)** | **Lecture HW #6** |
| **MON 6/15** | **Midterm** | Microplastic sample processing |  |
| **TUES 6/16** | Fisheries I | Discuss debate #2 and debate preparation | Must have term paper topic approved |
| **WED 6/17** | Fisheries II | Fishing lab **(handout)** | **Lecture HW #7** |
| **THURS 6/18** | MPAs/Reserves | MPA design project | **Lecture HW #8** |
| **FRI**  **6/19** | Place-based management | Microplastic sample processing |  |
| **MON 6/22** | Managing Fisheries | Hanauma Bay Virtual Field Trip | **Lecture HW #9** |
| **TUES 6/23** | Potential solutions | Debate preparation | **MPA project** |
| **WED 6/24** | The future of Marine Conservation | Microplastic sample processing | **Microplastics data due** |
| **THURS 6/25** | **Student Presentations** | Lab report data analysis | **Lecture HW #10** |
| **FRI**  **6/26** | **Student Presentations** | **Debate #2** |  |
| **MON 6/29** | Review for final and work on papers | Work on Lab Reports | **Term Paper** |
| **TUES 6/30** | **Final Exam** | Work on Lab Reports | **Lab Report** |