

Field and Lab Techniques in Marine Fisheries Syllabus
Field and Lab Techniques in Marine Fisheries
COA 417/517, 3 credit hours
Summer Mini-session
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The course is designed as a field-oriented introduction to fisheries techniques in the marine and estuarine environment. We will conduct various small surveys that will help prepare you for designing field experiments (if you have an interest in graduate school) or conducting routine fisheries sampling (if looking into a state or federal position). Or if you are currently undecided on your future direction, this class will acquaint you with some of the ways biologists, ecologists, and fisheries professionals sample fish and invertebrate species for research as well as introduce you to a variety of fish and invertebrate species in the Gulf of Mexico. As such, fieldwork will make up a large portion of the course (please read the **Fieldwork** section below), but the course will also consist of hands-on lab experiences and introduce some analytical methods as well.

My goal for you at the end of this class is to make you familiar with a variety of sampling techniques and associated lab procedures and provide a brief introduction into analyzing the data you collected as well as why fisheries biology is important in the face of a changing climate and growing population. To help you achieve this goal this course will include:

- **Lectures:** When we are not in the field or lab, lectures will occur in the morning. Lectures will provide an overview of certain techniques and real-world application. We will also be reviewing the primary literature to understand why certain techniques are used.
- **Laboratory/field notebook:** You should keep and have a notebook with you at all times! Your notebook will not be graded, but the information that is disseminated during field/ lab activities will be on quizzes and the final. Keeping information in your notebook will also be very helpful when writing your final report and in tying together concepts from various activity days.
- **Final report:** You will be required to write one report, the data will be collected in a group but the writing of the report will be up to you! Each report needs to include an Abstract, Introduction, Methods, Results, Discussion, and Literature Cited sections. Tentatively, the report will either examine the age-and-growth of near-shore fishes or compare larval recruitment at various locations. Your report should read like a scientific paper (primary literature) and will follow the guidelines of the Gulf and Caribbean Research
- **Boat trips:** When we have a boat day, the boat leaves the dock at **8 am!!!** This means be on board the vessel before 8 am.
- **Fieldwork:** In addition to boat trips, we will spend MOST of our time outdoors. Students will be held responsible for information discussed by the instructor and/or the teaching assistant during field excursions. Please refer to the student handbook regarding appropriate preparation and dress for fieldwork. We will be conducting activities in clear to brown water, in marshes to beaches, and around seagrass beds to sharp oysters; therefore, flip-flops, sandals, crocks, and bare feet **are not permissible**. Please bring an old pair of sneakers that you do not mind ruining, or purchase a cheap pair of sneakers (thrift stores are great for this!). Most “aquashoes” are also not permissible because they slip off in mud. I have recently become aware of expensive sandals called “Chacos”; these are also not suitable to most of our field activities and can be consumed by the Mississippi mud in no time at all! Footwear that protects the entire foot **is also required** on all USM field trips and vessels. Sunscreen, sunglasses, and clothing that minimizes sun exposure

are highly recommended; furthermore, we will likely get muddy and some grass is pointy so bring appropriate clothing. You may and should wear a swimsuit under your clothes if you anticipate getting wet (again will be in the field a lot). We **will** snorkel on some trips; snorkel gear will be provided, but you may bring your own if you have it.

- **One-pagers:** These will be a one page maximum write-up of the particular activity for the day or a review of a scientific paper. The objective is to summarize why we performed the activity, what we found, and how it fits into the big-picture. These will be due within two days of the activity.
- **Participation:** In addition to the execution of lab exercises and field trips, you will be expected to pitch in and help as needed. All students will assist in maintaining/cleaning the lab space, loading/storing equipment, recording data, and working gear/instruments.
- **Grades:** Your grade will be based on a final, a report, one-pagers, quizzes, and participation in activities/trips. Grades will be calculated as follows:
Final: 25% Report: 25% One-pagers:25% Quizzes: 15% Participation: 10%

Graduate Credit

If taking for graduate credit you will be required to give a lecture on a topic that we both agree on related to fisheries techniques, fisheries management, fisheries interactions, etc... Lectures must be between 1 to 1.5 hours in length and sufficiently cover the topic in detail. Lectures will be in a power point style and should include figures and graphs. Your grade will be based on how well you convey the material, the content itself, the organization, and your overall grasp of the subject as well as how well your peers perform on exam questions related to your lecture (to gauge if you taught your peers something!).

- **Grades:** Your grade will be based on the same scale as above for the final, the report, and the quizzes, but both participation and One-pagers will be 5% lower and will include your grade related to the lecture:
Final: 25% Report: 25% One-pagers:20% Quizzes: 15% Lecture: 10% Participation: 5%

Grading scale: All grades (lecture and lab) will be assigned according to a ten-point scale:
100-90 = A 89-80 = B 79-70 = C 69-60 = D <59 = F

Extra credit: There will be no extra credit assignments, but exams may have a question or two.

Course Schedule: The schedule outlined below is a very, very **tentative** list of topics we will cover and the approximate timeline. Dates/topics are subject to change due to changes in field trip schedules (weather happens, machinery breaks down, and plans change).

Day 1: Introduction to the class, local fauna, and various sampling gears

Day 2: Field trip

Day 3: Morning off/ Night sampling

Day 4: Passive gears/ Acoustic survey

Day 5: Data analysis day/ start of age and growth

Day 6: 2 day trip

Day 7: 2 day trip

Day 8: Lab day/ data analysis/ writing

Day 9: Field trip

Day 10: Time to finish your assignments/ Final

Academic Honesty: As stated in the undergraduate bulletin: 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. Cheating also 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 USM.

Plagiarism: As stated in the undergraduate bulletin: Plagiarism is scholarly theft, and it is defined as the unacknowledged use of secondary sources. More specifically, any written or oral presentation which the writer or speaker does not distinguish clearly between original and borrowed material constitutes plagiarism. Because students, as scholars, must make frequent use of the concepts and facts developed by other scholars, plagiarism is not the mere use of another's facts and ideas. However, it is plagiarism when students present the work of other scholars as if it were their own work. **Plagiarism is a serious offense.** An act of plagiarism may lead to a failing grade on the paper and in the course, as well as sanctions that may be imposed by the student judicial system.

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):

1. Cheating (including copying from others' work)
2. Plagiarism (representing another person's words or ideas as your own; failure to properly cite the source of your information, argument, or concepts)
3. Falsification of documents
4. Disclosure of test or other assignment content to another student
5. Submission of the same paper or other assignment to more than one class without the explicit approval of all faculty members' involved
6. Unauthorized academic collaboration with others
7. 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](#). Note that repeated acts of academic misconduct will lead to expulsion from the University.

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.