

Instructor Information



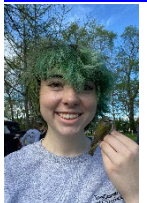
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Our Teaching Pledge: We want you to learn and to gain experience in studying birds in the field. Please reach out should you have difficulty with activities during the course. It's much easier to improve performance early and we can work together to ensure that you achieve each and every learning objective.

Course Information

BIOSM3740/MEFB(ZOOL)510

Dates: 23 May – 6 June, 2022

General Course Description

Our goal is to provide an introduction to field methods that can be used to study birds. We will learn how to identify & study birds, explore various methods used, and get outside and put some field methods into practice. If you're interested in birds,

we will build on that. If you're not (yet) interested in birds, we're going to try and change that!

Course Learning Objectives

By the end of this course students will be able to:

1. Recognize the birds of the Isles of Shoals by sight and sound.
2. Appreciate the diversity of life-history strategies pursued by these birds.
3. Explore & practice a variety of field techniques used for studying birds including banding, census methods (point counts, transects, spot mapping), nest monitoring, & behavioral observations.
4. Keep an appropriately-detailed field journal.
5. Develop and test ecological hypotheses through a **team** or independent project, to summarize and analyze data, and to present scientific information appropriately in both written and oral form.
6. Appreciate that anyone can and everyone should be a "bird person."

Course Structure and Requirements

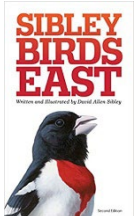
Students must plan on being challenged to think critically, learn new information, and to apply themselves in this class.

This syllabus is a one-stop shop and it is a live document. We will update the schedule section with links to all required readings, etc.

Finally, students are required to have an open mind and consider all the things that birds (and their environment!) have to offer.

Required "Materials"

A Bird Field Guide. Any one of the following: Sibley Birds East by David Allen Sibley, ISBN: 0307957918; Peterson's Field Guide to Birds by Roger Tory Peterson (Eastern Region); Sibley Guide to Birds by David Allen Sibley.





A Field Notebook: Students can use any type of notebook for their field notebook but it should be no larger than 9x6 inches. [This one is highly recommended.](#)

Binoculars: If you have them, bring them with you. Otherwise a set will be provided for any student who needs it.



A Bike Helmet: For protection from the gulls, you will need to wear a helmet when working with them. Please bring a standard bike helmet with you (not a more heavy-duty

skateboarding or snowboarding helmet as they can cause injury to the gulls). We will have some “pre-loved” helmets on island in case you are unable to bring your own.

A willingness to be outside, conduct field studies, explore new environments, participate in ongoing research projects and enjoy birds!



Course Assessment

Assessment in science is about documenting and providing feedback to you about whether you:

- try things
- ask questions
- consider and test alternative ideas

We will help you by giving you feedback on these things, but you will also be reflecting on how well YOU think you’re doing throughout the course.

This course uses a standards-based approach to assessing student learning.

You will receive a final course grade, but you won't receive points-based or letter-based grades on anything. Instead, you will receive feedback in the form of categorical scoring and comments on your work. Your final course grade will be determined through these categorical scorings and your own self-assessment of your work, and our thoughts on it. When you get feedback, it's meant to help you improve, so you will have opportunities to do just that, and will be able to revise certain assignments.

The work itself will come in the form of Presentations, Participation in Field Activities, a Research Project, a Final Exam, and various other items. Importantly, students should plan on

- critically reading primary scientific literature,
- collecting and analyzing your own data,
- building, testing, and evaluating ideas that help understand how the world works, and
- communicating your learning both orally and in writing.

Course Content & Assignments



Field Journal: One way in which participation will be measured is by your active involvement and engagement in field and classroom

activities, and by how well your participation is documented in your field journal. The journal should be a reference that can be used to find areas that you visited, help you identify organisms, and remind you of the methods used to collect data.

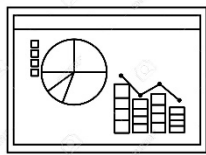
The journal will be evaluated based on completeness. The journal should be legible and all the information pertaining to field work should be relatively easy to find. The goal of a field journal is to provide a complete documentation of your time in the field. *You should be able to grab your journal a year from now and still be able to use it to generate the methods section for a report.*

The journal should include detailed entries about your daily activities including (but not limited to...):

- Field activities performed and observed
- Interesting observations
- Weather conditions (each day) and tides (as needed)
- Any unusual events or conditions that may have influenced your observations or data collection
- A complete list of the birds YOU observed on each day
- A complete list of all “non-birds” YOU observed on each day

Writing Assignments:

Data Reports: This course is designed for students to learn ornithological research methods by actually going into the field and gathering data. Students will summarize the methods and results of some of these data gathering exercises. First, we will work in groups to write a report of our annual gull census. Each group will submit a single data report. Next, students will work in pairs to compose reports on our inter-island gull population study and our survey study. Finally, each student will submit a data report on their spot mapping work.



Unlike scientific papers, our data reports will only have the following sections: A short statement of the goal, objective, or hypothesis; a methods section (when, where, & how the data collected and analyzed); a results section (what did you find?); and a conclusion statement. The results section must contain graphs, tables, and/or statistical analysis as appropriate. The instructors will be available for consultation to help choose appropriate statistics and to demonstrate how to perform specific tests.



Science Writing: You'll be working on one science "writing" assignment throughout the course. It will be on a topic and in a format entirely of your choosing (although some potential topics/avenues of investigation will be provided). You will submit a first draft, and then I (M.E.) will give you feedback and direction for your next draft, due date on syllabus. After that, you may need to submit another revision; there will be no hard and fast number of drafts to get to your "final" draft as it is a case-by-case process, with us working together, as editors and writers work together. The goal of a science writing or "popular science" piece is to be scientifically accurate, while also being welcoming and engaging for a general audience (read: non-ornithologists). You are choosing your own topics because it helps to be

genuinely interested in your piece—your enthusiasm will show, and it will be contagious!

Assignments and Presentations:

Throughout the course, students will conduct several small assignments focused on learning new field techniques, learning about the birds we see, and your ability to convey information. These assignments include, but are not limited to, the following:



- Focal Species Presentation
- Technology Presentation
- Gull Band Re-sights (minimum 50 unique bands, there will be a competition with a prize)
- Field Participation on Gull Project(s)
- General Field Participation



Research Project: This year, the class will develop, design, and carry out a collaborative research project that will be conducted by the entire class. The goal of this project is for students to conduct a research project on an aspect of avian biology that requires using field techniques learned and to present the project in both written and oral form. Students can work on specific components of the project, based on their interest and affinity for different project tasks (e.g. field data collection, statistics, writing). Ultimately, the entire class should be able to be co-authors on a manuscript that we develop on the project (co-authorship may require students to participate on the manuscript after the course is complete). Students will be evaluated on their contributions to the project including its design, field protocols, field data collection, data analyses, and writing of the different manuscript sections. As a class, you will develop the following:

- A two-page (minimum) project proposal will be due at the end of the first week of the class. The proposal must include the background, hypothesis/goal of the project, detailed methods, data analysis plan, and breakdown of tasks (who is doing what and when).
- A project data report (same structure as the data reports) is due on the last full day of the

course. This report will be written collaboratively by all group members.

- An oral presentation of the project, to be given during the class' ornithology symposium. The presentation will be developed and delivered by all group members collaboratively. Every group member must both develop and present some element of the presentation.

➤ NOTE: If you feel very strongly about an idea for a project separate from the group research project, you *can* do it solo, but know it will be more work on you, as you will be solely responsible for all the same elements as the group project.

The Exam: The exam will test your knowledge of

- identification of local species by sight & sound
- aspects of the biology, ecology, & behavior of birds
- the field techniques learned in class

The exam will begin with a walk around Appledore for the Field Portion (i.e., What bird is that? What is its common and scientific name?) and will be followed by a written portion that will cover the relative advantages and disadvantages of various field techniques, aspects of the natural history of birds seen during the course, etc. Any topic covered during the course is fair game.



Basis for Grading



Learning Portfolio: At the end of the course you will submit your final learning portfolio and self-reflection and we will use it to determine what course grade you have earned based on all your collected work for the course.

The Grades: The "Evidence of Learning" table below outlines what is expected for each available grade category. Students must refer to the "Evidence of Learning" in their self-reflection and compare it to their final Learning Portfolio. A template of the learning portfolio and a larger version of the "Evidence of Earning" table are available [here](#). Be sure to download the file and keep track of your assignment scores.

Evidence of Learning (How to determine your final course grade)			
Instructions: Go through the grade criteria under each type of course assignment type (Writing & Reports, Various, and Research Project) and highlight the cells that match your Learning Portfolio. This may differ across assignment types. Then collectively determine which final course grade matches you the best. Final decisions will be made by the instructors.			
	Writing and Data Reports	Various Assignments	Research Project
A	All data reports "good". Thoughtful first round draft of science writing with substantial improvement through the third round submission.	All assignments "Good".	Proposal "complete" upon first submission. Remaining components "Good". Distribution of work tasks clear and evenly distributed across group members.
A-	Most data reports "good", may have one as "fair". Thoughtful first round draft of science writing with substantial improvement through the third round submission.	Most assignments "Good", may have no more than two "fair" but no "poor" or "ND" assignments.	Proposal "complete" upon first submission. Remaining components "Good". Distribution of work tasks may be unclear or unevenly distributed across group members.
B+	No more than two data reports "fair", remaining reports "good". First round science writing requires substantial revision but shows great improvement through the third round submission.	Most assignments "Good", may have no more than two "fair" but no "poor" or "ND" assignments.	addresses any issues and "Complete". Remaining components "Good" or with no more than one "fair". Distribution of work tasks may be unclear and/or unevenly distributed across group members. (Note, for B+ students can either need a revision on the proposal OR have one "fair", but not both.)
B	Two or three data reports "fair", remaining "good". First round popular science report requires substantial revision but shows moderate improvement through the third round submission.	Most assignments "Good", may have two or three "fair" but no "poor" or "ND" assignments.	Proposal may require a revision on first submission but second submission addresses any issues and "Complete". Remaining components "Good" or with no more than one "fair". Distribution of work tasks may be unclear and/or unevenly distributed across group members.
B-	No more than three data reports "fair", at least one "good". First round science writing requires substantial revision and shows only some improvement through the third round submission.	About half assignments "Good", may have no more than three "fair" with no "poor" or "ND" assignments or two "fair" assignments and one "poor" assignment (but no "ND" assignments).	Proposal may require a revision on first submission and shows improvement on second submission but does not address all issues; second submission may be "revise". Remaining components "Good" or with no more than one "fair".
C+/C/C-	May have all four data reports "fair", or have one or two "poor" (C or C-). First round science writing does not meet requirements and revision required is very substantial. Subsequent submissions may (C+ or C) or may not (C-) and show improvement through the third round submission.	At least two "Good" assignments; remaining assignments may be "fair" or "poor" (more fair = C+ or C, more poor = C-). C+ or C may not have any "ND" assignments. C- may have one ND assignment.	Proposal may require a revision on first submission and shows little improvement on second submission and does not address all issues and scored "revise". At least one of the remaining components are "Good", remaining may be "fair" (C+/C) or "poor" (C-), with no "ND" components.
D	All four data reports "fair" or "poor". First round science writing does not meet requirements and revision required is very substantial little revision is done on subsequent rounds of revision.	Mixture of mostly "fair" and "poor" assignments. May have up to three "ND" assignments.	Proposal still at "revise" after second submission with substantial issues. Remaining components may be "fair" and/or "poor" with one or more "ND" component.
F	Most writing assignments do not follow guidelines and/or are "incomplete".	More than three "ND" assignments.	Proposal and/or most other components "inc" or "ND".

Other Syllabus Statements & Policies



Honest Work, Plagiarism, and Cheating: Ever taken an art class? Were you ever tempted to look over at someone else's artwork and copy down their correct answer? Doesn't even make sense, does it? That's because art is creative, and individual, and there's no right answer. You might think science is none of those things, but in fact, it is.

If you DO try to pass someone else's work off as your own, however, the assignment will not count and you will not be able to revise it. If you plagiarize again, you'll fail the course, so you're much better off just thinking your own thoughts and doing your own work.

Acknowledgement of Territory: I would like to acknowledge that our class gathers the ancestral lands of the Wabanaki Nations. The people of the Wabanaki Nations include the Abenaki, Maliseet, Mi'kmaq, Passamaquoddy, and Penobscotare are indigenous to the Acadia region which includes Maine, areas in New Hampshire, and the Canadian Maritime Provinces.



Tentative Schedule*

Off-island boat trips are listed in RED. Field time in BLUE. Field Technique Shifts in GREEN.

Meal Schedule: Breakfast 0730;
Lunch 1230; Dinner 1800
Sunday: Brunch 1000;
Dinner 1700

Some field activities will be done **as a class**, and others will be done in **pairs**, as assigned.

Date	Early Morning (0600-0700)	Morning (0900-12:00)	Afternoon (1400-1700)	Evening (1900-2100)
Monday, May 23		**1:30 PM: Arrive at SML dock. 2:45 PM: depart Portsmouth for SML. ** [Follow instructions provided by SML]	Safety intro, course intro. Settle in.; Intro to Appledore Walk Intro to birds & Songbird ID Lecture (K.C.); Select focal species for presentations.	Intro to the islands tour @ 1845 ; Daily bird list; SML History Lecture [30:22] Gull research papers [Optional More gull research papers]
Tuesday, May 24	Morning Bird Walk (K.C.)	Gull Repro Lecture (M.E.) Introduction to Gull Nest Monitoring & Sample Collection (Dylan & M.E.); Gull Nest Checks Work on species presentations	Animal Behavior Lecture (M.E.); Gull Behavioral Observations (rooftop) ; Migration Lecture (K.C.);	<i>ROCK TALK (2000)</i> ; Daily bird list; Work on presentations; General field methods papers [Optional More field methods]
Wednesday, May 25	Learn How to Band Songbirds (meet at banding station; AIMS)	Ageing and sexing Lecture (K.C.); Gull Nest Checks ; Communication Lecture (K.C.); Song list	Gull Observations (LT = 1417, start at 1347, back ~1500) ; Gull resight data (M.E.); Focal species presentations (students); Select technologies for presentations	<i>Signals for Survival</i> movie; Daily bird list; Work on presentations; Safe fieldwork strategies for at-risk individuals; Demery & Pipkin
Thursday, May 26	Assist at banding station (1) Gull nest checks	Gull census preview (M.E.); The Great Appledore Gull Census 2022!	How to write a data summary report (K.C.); Gull census report (groups); Gull nest checks	Daily bird list; <i>Life of Birds</i> (Demands of the egg); Work on group report; Research project papers [Optional Other cool research]
Friday, May 27	Assist at banding station (2) Gull nest checks	Introduction to seabirds (M.E.); Seabird Cruise & Whale Watch (1000 d Appledore)	Seabird Cruise & Whale Watch (1500 a Appledore)	Daily bird list; <i>Life of Birds</i> (To fly or not to fly); Point count/ transect papers ; Group report (gull census) due
Saturday, May 28	Assist at banding station (3) 0545-0715 ; Gull nest checks	Intro to survey methods (transects & point counts), discuss survey research Q & report; Appledore Surveys	Discuss surveys & data entry; Discuss Group Research Project; Intro to Science Writing (M.E.)	Daily bird list; <i>Life of Birds</i> episode (Problems of parenthood); Seabird restoration papers

Sunday, May 29 Brunch 1000; Dinner 1700	Assist at banding station (4) 0545-0715; Gull nest checks	Technology presentations (students &K.C.); Project proposal work time	Seabird restoration on White Island; 1130 d. Appledore, ~1600 d. White; Seabird restoration lecture (Liz Craig)	Project proposal due ; Daily bird list; Work on project proposals
Monday, May 30	Assist at banding station (5) 0545-0715; Gull nest checks	Discuss research projects; Intro to spot mapping (K.C.); Spot mapping practice	Data entry catchup; Project Work Time; Spot mapping	Science Writing First Draft Due ; Daily bird list
Tuesday, May 31	Spot mapping Assist at banding station (optional)	Star Island 0745 d. Appledore, 1045 d. Creek Farm	Project Work Time; Discuss survey data & analyses; Spot mapping	Eider crèche observations; Daily bird list; ROCK TALK (2000);
Wednesday, June 1	Eider crèche observations Spot mapping Gull nest checks	Eider reproductive biology discussion (0800); Check swallow boxes; TRES banding; Project Work Time;	The Secret Life of Gulls (and what their poo may reveal) (K.C.); Project Work Time; Gull nest checks;	Surveys data report due; Science Writing Second Draft Due ; Data entry catchup; Spot mapping; Daily bird list
Thursday, June 2	Assist at banding station (optional) Spot mapping Gull nest checks	Smuttynose trip & Gull nesting study preview (M.E.); Preliminary data collection (on Appledore); Project Work Time	Smuttynose Island Gull Survey & data collection; 1315 d. Appledore, 1700 d. Smuttynose; Smuttynose data entry (& analyses)	Daily bird list; <i>Life of Birds</i> episode (Signals & songs); Spot mapping; Science Writing Third/Final Draft Due ;
Friday, June 3	Assist at banding station (optional) Spot mapping Gull nest checks	Intro to Barn Swallows; Swallow banding; Spot mapping; Project Work Time	Gull banding; Misc. Writing Time; Misc. Field work Time	Daily bird list; ROCK TALK (2000); Gull nesting report due; Spot mapping report due
Saturday, June 4	Study time	More swallow banding (TRES/BARS); Project Work Time	Data entry catchup; FINAL Gull nest checks (get final data to Interns)	Practice Symposium Daily bird list
Sunday, June 5 Brunch 1000; Dinner 1700	Study time	Field Journal Due; Exam (field & classroom); Gull band numbers due	Prepare for presentations; Course evaluation Project reports due.	Field Ornithology Symposium - presentation of projects
Monday, June 6	Course Bird List – Broad Cove @ sunrise	Submit Self-assessment Depart :-)		

* Please be prepared to be flexible. We may change the schedule depending upon the weather, availability of boats, the whims of the instructors, etc.