Natural History of Birds *Course Syllabus*

UC Santa Cruz, ENVS 106A (5 credits)
Summer Session 2 (29 Jul – 30 Aug 2024)

Instructors: Dr. Spencer Schubert, sschuber@ucsc.edu *Time*: MWF 8:00a-12:00p (w/ breaks)
Location: 221 ISB

Course overview

The Monterey Bay area supports a rich community of terrestrial, shoreline, and marine birds. In this five-week field-intensive course, students have the opportunity to study the natural history, ecology, and conservation of these iconic animals. This course emphasizes first-hand learning and makes full use of the campus natural reserves and the Norris Center collections. Observation of birds in natural habitats is an essential element of the course.

Learning Objectives and Skills

At the end of this course, students will be able to:

1. Understand the basic systematics, morphology, physiology, and ecology of birds.
2. Recognize and identify in the field common species of birds in the Monterey Bay area.
3. Effectively and creatively use the field natural history skills of observation, identification, and interpretation.
4. Effectively use field observations to document animal distribution, abundance, and behavior, and to interpret relationships with ecological and environmental variables.
5. Understand some of the major conservation issues concerning birds locally and worldwide.

Course Format

In class: MWF class hours will include a combination of instruction through lectures, discussions, examination of lab specimens, and field exercises (see schedule). We will use of the Norris Center collections and the many natural reserves and field sites on the UCSC campus. The meeting point will be ISB 221, with the exception of several field trips, for which the meeting point will be explicitly communicated in prior class and by email.

Field observations: observation of birds in natural habitats is a fundamental aspect of this course. The primary objective is for you to develop field observation and identification skills, using binoculars, spotting scope, field guide, and your field notebook. You are expected to use a field notebook to keep a careful record of your observations of birds in nature on class field trips and assignments. I will teach you a standardized method for field notes.

Observation Assignments: assessment of species diversity and abundance is a useful skill in bird conservation. Working in small groups, you will conduct surveys of birds during our field

trips (handouts will provide more details), as well as at least 1 additional independent observation each week outside of class hours.

Species Identification: learning to identify bird species is an important first step in understanding their natural history and ecology. This includes learning their names and evolutionary relationships. I will provide a list of locally common species that we expect to see during this course. You should to be able to identify these species by sight or vocalization by the end of the course. To facilitate your learning, I will post slides and/or audio recordings for these species on Canvas. For further assistance refer to the Merlin app and the recommended field guides below.

Missed classes and assignments

Attendance is required for this course, and actively engaging during all phases of instruction will be necessary to receive a good grade. The class will not include a zoom/remote option or recorded lecture content beyond making slides/hand-outs available. If you must miss class due to unavoidable circumstances such as emergency, illness, or key academic-related commitments, I can accommodate by assigning make-up work. It is **YOUR RESPONSIBILITY** to contact me to notify me if these circumstances arise. I ask that you do so at least 48 hours prior to the class when you will have a conflict, in class before/after the previous session, or otherwise by email (sschuber@ucsc.edu) as soon as possible. Students can independently complete alternative assignments ***IF*** they provide prior notice of absence; this work is due by the next Sunday at 11:59AM. Otherwise all late classwork and assignments is accepted at 80% credit through Aug 28th.

Quizzes

There will be 10 "pop" quizzes distributed throughout our course period. These will typically be placed at the beginning of our classroom period, thus adding further importance to your timely arrival for our 8am start-time. The quiz prompts will address themes and key concepts covered in the prior session. Note that I do not try to be deceptive and will often directly say during class if something is likely to appear on a quiz or the exam, so I highly encourage both taking notes and brief revision of these notes before the start of each session. You will not be able to make up missed quizzes, but I will drop the score of your worst quiz score from the final grade.

Exams

The exam in week 5 will be cumulative and comprehensive based on all prior sessions. In addition to testing understanding of terminology (e.g., morphology) and core concepts, and lessons from the field, it will include a slide-based component to test identification of common local species. Before the exam, we will conduct a class-time review session. There will be no opportunity for a make-up exam, so make careful note of the exam date.

Required course materials

Field and Lab notebook (minimum size 4.5"x 7")

https://www.riteintherain.com/4-625x7-side-spiral-notebook#373

I suggest Rite-in-the-Rain brand, but since our course field trips will likely not align with rainy conditions, it can be a spiral notebook on regular paper. Note that 8.5" x 11" is not advised, as it is too large to be carrying/holding in the field.

Binoculars I strongly recommend 8x42 magnification as the most versatile for general bird observations. 10x magnifications and up can be great for scanning at a distance but have poor resolution in contexts like the interior of a forest.
(some binoculars are available for check-out from the Norris Center and from the Predatory Bird Research Group via Zeka Glucs)

Bird identification guide (some copies are available for check-out from the Norris Center and the Science and Engineering Library)

Sibley, D.A. 2016. The Sibley Field Guide to Birds of Western North America. 2nd edition.
or
Sibley, D.S. 2014. The Sibley Guide to Birds. 2nd Edition
and/or
The Sibley v2 app for smart phones and tablets (covers all of North America)

Notes on these resources: The Western North America book is smaller, lighter, cheaper, and easier to carry in the field. The Sibley Guide to Birds has more content on each bird species but is larger and heavier. The choice is up to you. I recommend the 2nd editions of these books because they have significant updates to the taxonomy. You may instead download and use the **Sibley Birds v2 app.**

Other bird field guides are out there, but in my experience, the Sibley guides are the best. If you already have another bird book, show it to me and I can evaluate if it will work for this class.

Merlin - bird identification app (for cell phone or tablet) -- free from The Cornell Lab, available at https://merlin.allaboutbirds.org/

eBird app (for cell phone or tablet) – free from The Cornell Lab, available at all app stores. (This is not required, as eBird can be used on a web browser too, but I highly recommend getting the mobile app).

Supplemental texts and references

We will not be using a formal textbook, although supplemental text/articles will be assigned. Consider the following optional resources to assist your learning:

Sibley's Birding Basics. 2002. By David Allen Sibley (Alfred A. Knopf Press)

Seabirds: A Natural History. 2004. By A. J. Gaston

Handbook of Bird Biology, Cornell Lab of Ornithology

Schedule

Day	Lectures & discussions	Lab / Field
Mon 7/29	Intro to course and field observation	Materials orientation / Campus walk
Wed 7/31	Morphology & Families Overview	Trait diversity & adaptations
Fri 8/2	Waterbird ecology	Waterbird families / Neary Lagoon
Mon 8/5	Foraging behaviors	Arboretum - hummingbirds
Wed 8/7	Migration and molt	Passerine families
Fri 8/9	Coastal Campus / Banding Demonstration	Field-only (w/ Vaughan Williams)
Mon 8/12	Land Bird Survey Methodology	Field: upper campus
Wed 8/14	Mating systems and nesting behavior	Non-passerine landbirds families
Fri 8/16	Hastings Natural History Res.	Field-only
Mon 8/19	Birds of Prey	Raptors / Great Meadow
Wed 8/21	Seabird/shorebird ecology	Seabird & shorebird families
Fri 8/23	Moss Landing + State Beach	Field-only
Mon 8/26	Conservation presentations / Exam review	field notebooks due
Wed 8/28	Exam	
Fri 8/30	Final paper due	

Evaluations:		
	Exam	30%
	In-Class Assignments & Field Notebook	20%
	Conservation presentation	15%
	Final paper (5-8 pages)	15%
	Out-of-Class Assignments	10%
	Quizzes	10%

Office Hours

Immediately after class in-person, from 1-3pm on MWF, and Zoom Tuesdays 10:00am-12:00pm by appointment. Office hours during other times can be arranged via email if this time slot does not work for you. Please make all appointment requests and attendance-related inquiries by email at least 24 hours in advance.

Ethical conduct: You must do your own work. While much of this course will require good teamwork, you will receive no credit for turning in work that is not your own (i.e., plagiarized work). In such cases the established UCSC policy will be followed: ttps://ue.ucsc.eduoacademic-misconduct.tml

Disability Resources:
UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu.

Title IX:
Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273**.** In addition, Counseling & Psychological Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University's Title IX Office, (831) 459-2462**.** Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911. Faculty and Teaching Assistants are required under the UC Policy on Sexual Violence and Sexual Harassment to inform the Title IX Office should they become aware that you or any other student has experienced sexual violence or sexual harassment.

Other resources:
UCSC Campus Advocacy, Resources & Education (CARE): The CARE office is a confidential space to discuss issues of dating violence, sexual assault, and stalking. We believe that all people deserve to live and engage in an environment free from violence. We believe in promoting an environment where people can learn and work while being safe and healthy. We celebrate the differences on this campus and believe in working collectively to create a community that is free from violence, exploitation, and harassment and instead promotes safety and equity. https://care.ucsc.edu/who-we-are/about-care.html