

ORNITHOLOGY 2019
IB 174LF

Instructor: Rauri Bowie

GSI: Mackenzie Kirchner-Smith; Aleksey Maro

UGSIs: Zheng “Oz” Oong, Julia Anderson

Volunteers: Stephen Long

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Office hours for faculty and GSIs will be posted on bCourses during week 1. Messages can be left in mailboxes in the front office of the Museum of Vertebrate Zoology (MVZ, 3101 VLSB).

Lecture: Mon, Wed, 10:00-11:00 in 204 Wheeler.

Lab: Wed 1-4 pm, Thurs 1-4 pm, 3097 VLSB.

Books:

Sibley, D. A. 2016. *The Sibley Field Guide to Birds of Western North America: Second Edition*. Alfred A. Knopf.

Lovette and Fitzpatrick (eds) (2016). *Handbook of Bird Biology (Cornell Lab of Ornithology): Third Edition*. Wiley-Blackwell. (Optional)

Gill 2007. *Ornithology* 3rd edition. W.H. Freeman and Company, New York. (Optional)

Lecture content: Although I have assigned an optional textbook for the lecture component of this course, I have done so primarily to provide you with a valuable reference tool. Lecture exam questions will be drawn entirely from the lecture notes and will not necessarily be covered in the textbook. Therefore, it is imperative that you attend class and take comprehensive lecture notes.

Laboratory: You are encouraged to perform as much of your lab work as possible during the scheduled lab period. This is the time that the GSIs will be available to assist you. Be sure to bring your field guide to lab.

Point allocation for the course:

1 midterm theory exam	100 pts.
1 final theory exam (comprehensive)	200 pts.
2 midterm laboratory practical exams	80 pts. Each
Lab oral presentations	30 pts.
12 Form & Function Lab accounts	60 pts.
4 one-day field trips	55 pts.
1 weekend fieldtrip	45 pts.
20 species accounts	100 pts.
1 term paper	100 pts.
Total points possible	850 pts.

Examinations: Two lecture examinations will be given during the course of the semester. The first exam will be worth 100 points and the final exam will be worth 200. The first examination will include those topics covered since the beginning of the semester. The final exam will be comprehensive (Tue, May 14, 3:00P - 6:00P | Exam Location TBD). Lecture exams will primarily be composed of short essay questions.

Two lab exams will be given over the course of the semester. Both exams will be worth 80 points each.

Field Trips: One morning-long, three full day, and one weekend field trip are scheduled. These trips are strictly required and carry a cumulative total of 100 points. It is required that you bring binoculars and a field guide on all trips. 7X-10X power binoculars with coated lenses and center focusing are best for observing birds, but other kinds may be suitable. The field trips are the most enjoyable aspect of the course.

Species Accounts: 20 required, worth 5 points each. **5 accounts due Feb. 20; all accounts due May 6.**

Research Paper: Students are required to write an 8-10 page (excluding references) research paper on a topic in ornithology. A brief (~ 1/2 page) summary with a list of 4 or 5 relevant references is due **March 18** in class. These will not be graded; rather they are to ensure that paper topics are appropriate. The final paper is due on **April 22**. Papers that are late will lose points. The research paper is a chance to explore in detail an ornithological issue that interests you. Papers can be on any question, issue, or problem either specifically about birds (example systematics and biogeography of any particular family, or genus of birds that interests you) or on a more general topic with ornithological relevancy (e.g. patterns of speciation, hybrid zones, community ecology, sexual selection, avian vision, physiology, adaptation, clutch size, etc.). Papers that are solely on natural history or a summary of a group of animals are not acceptable. This is a research paper and you are expected to read and cite primary literature (articles from research journals) on your topic. Be sure to talk to Rauri, Mackenzie, Aleksey or Stephen about possible topics. We can also offer guidance on literature resources. The term paper will be worth 100 points.

Grades: Your final grade will be based entirely upon your total class score. The standard 10% cutoff between letter grades will be applied (i.e. 90%-100% = A, 80%-89%=B, 70%-79%=C, 60%-69%=D, <60=F). There are 850 total points possible.

Spring 2019**ORNITHOLOGY****IB 174LF****LECTURE****LABORATORY**

W	Jan 23	Intro to course	Jan 23, 24	Non-Passeriformes 1
M	Jan 28	Origin of Birds 1	Jan 30, 31	Non-Passeriformes 2
W	Jan 30	Origin of Birds 2		
M	Feb 4	Modern Orders of Birds	Feb 6, 7	Non-Passeriformes 3
W	Feb 6	Feathers 1		
M	Feb 11	Feathers 2	Feb 13, 14	Non-Passeriformes 4
W	Feb 13	Flight (R. Dudley)		
M	Feb 18	No Lecture	Feb 20, 21	Non-Passeriformes 5
W	Feb 20	Core Physiology		
M	Feb 25	Digestion & Microbiota	Feb 27, 28	Lab Exam 1
W	Feb 27	Senses, Brains & Intelligence		
M	Mar 4	Visual Communication	Mar 6, 7	Passeriformes 1
W	Mar 6	Vocal Communication		
M	Mar 11	Migration	Mar 13, 14	Passeriformes 2
W	Mar 13	Lecture Exam 1		
M	Mar 18	Navigation	Mar 20, 21	Passeriformes 3
W	Mar 20	Annual cycles		
M	Mar 25	Spring recess	Mar 27, 28	No labs
W	Mar 27	Spring recess		
M	Apr 1	Social Behaviors	Apr 3, 4	Passeriformes 4
W	Apr 3	Mates & Mating systems		
M	Apr 8	Reproductive System	Apr 10, 11	Passeriformes 5
W	Apr 10	Eggs and Nests		
M	Apr 15	Incubation	Apr 17, 18	Passeriformes 6
W	Apr 17	Young Birds & Parental Care		
M	Apr 22	Brood Parasites & Helpers	Apr 24, 25	Dissection Lab
W	Apr 24	Life History & Demography		
M	Apr 29	Avian Diseases	May 1, 2	Lab Exam 2
W	May 1	Species & Speciation		

Field Trip Schedule 2019. Fieldtrips generally start at 8:00 am unless otherwise specified.

Date	Location
Jan 27	Berkeley Aquatic Park (Optional Trip – learn the basics) – Sunday morning
Feb 3	Arrowhead Marsh – Sunday morning (10 points)
Feb 16	Pt. Reyes – Saturday full day (15 points)
Mar 2	Central Valley – Saturday full day (15 points)
Mar 16	Tilden (Make-up Trip) – Saturday morning
Apr 19-21	Weekend away (Friday to Sunday). Note that we are camping! (45 points)
Apr 27	Pinnacles National Park – Saturday full day (15 points)