

## **Ornithology 2017 Biology 5560**

**Course overview:** Ornithology is designed to cover the major areas of avian biology, introduce students to techniques used in studying wild birds and teach students how to identify the majority of avian species found in western North America. The course consists of lectures, laboratory exercises, field trips and independent activities. This course meets the Field Course Requirement for the Biology major and the ornithology requirement for federal employment.

Lecture/lab/field sessions Tuesday and Thursday 7:30-10:15 BNR 7 Quizzes will be given at the beginning of lab sessions and on field trips. Worksheets are not turned in and can be used as a study guide for the laboratory sessions. The learning objectives at the beginning of each class can be used as a study guide.

**Instructor:** Dr. Kim Sullivan BNR 313, [yejunco@biology.usu.edu](mailto:yejunco@biology.usu.edu), 435-770-6806  
Office hours by appointment, all lectures will be posted on Canvas.

Teaching assistant: Dylan Hopkins [dhopkins415@gmail.com](mailto:dhopkins415@gmail.com) BNR 206.  
Undergraduate teaching fellow: Ryan Sabel [sabelryan@gmail.com](mailto:sabelryan@gmail.com)

**Required Textbook:** Handbook of Bird Biology 3<sup>rd</sup> edition. Lovette and Fitzpatrick. 2016. Wiley ( you must use this edition)  
Cache County Checklist- handed out in class  
Paper or electronic field guide of your choice  
Binoculars by first field trip.

### **Online resources:**

All About Birds free [www.birds.cornell.edu](http://www.birds.cornell.edu)

All About Birdsong free [www.birds.cornell.edu](http://www.birds.cornell.edu)

Merlin smartphone app – free [www.birds.edu](http://www.birds.edu)

iBird Pro app \$

iBird West app \$

Audubon Birds Pro app \$

Online Guide to North American Birds <http://birds.audubon.org/birdid> free

Sibley Birds of North America or Guide to Birds of western North America app \$

National Geographic Guide to North American Birds app \$

Peterson Field Guide to Western Birds app \$

The apps run \$5-30. You can often find one on sale. Some are for iphone, others for Android platform.

Western Soundscapes <http://westernsoundscape.org/> free

Utah Division of Wildlife website free

ebird [ebird.org](http://ebird.org)

**Attendance:** All students enrolled in the course are expected to attend all lectures, labs, and field trips.

**Course Goals:** Students will be able to identify by sight and sound the common bird species of the intermountain west and will be able to predict avian occurrence from location and habitat type.

Students will discuss and answer questions on topics in the major research areas in avian biology.

Students will answer questions on the basics of avian evolution, physiology, anatomy, flight, systematics, ecology, field techniques and natural history.

Students will understand the concepts of hypotheses and theories in science and that science is a way of knowing rather than a collection of facts.

Students will engage in authentic research and communicate their findings at a poster symposium.

**Lab Fee:** The lab fee covers minivan rentals for the field trips, repair and replacement of spotting scopes, tripods and other equipment specifically used in this class, expendable lab supplies including the pigeons used for dissection, safety equipment and supplies, and copying of course materials. In addition, the lab fee provides some of the costs of teaching assistants for this course.

Bring your field guide to lab where indicated. For the field trips bring your field guide, binoculars, Cache County bird list, writing utensil and a notebook. Dress for the weather on the field trips. Note: binoculars are required on the field trips. Quizzes will be given at the start of labs or during field trips. Quizzes cannot be made up but four scores will be dropped.

Students will provide their own transportation to the field trips held in Logan. For the other field trips, students will meet at the NE corner of BNR and we will travel by university mini-van. Disruptive behavior will not be tolerated. Students must use seatbelts at all times in university vehicles.

Weather conditions may necessitate changing field trip dates. If a field trip is cancelled, a lab will be held instead. The schedule is tentative and may be changed to accommodate weather and migration patterns.

**Lab Safety:** No food or drink is allowed in BNR 7. Students should wear gloves and wash hands if handling bird specimens. Students will wear protective eye wear and aprons during the dissections. Students must wear closed toe shoes and long pants or long skirts in lab.

**Use of instructional materials:** Instructional materials for this course have been acquired through lab course fees and Biology Department funds. To ensure that all students have access to the materials, students are provided with the lock combination to BNR 7. Students are not to remove any materials from BNR 7 without written permission from the instructor or teaching assistant. Removing teaching materials without permission may result in a lowered grade, dismissal from the class and prosecution for theft of university property.

**Students with disabilities:** The Americans with Disabilities Act states: "Reasonable accommodation will be provided for all persons with disabilities in order to ensure equal participation within the program. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille." If you are working with the DRC, it is your responsibility to schedule a room for your exams. All exams should be taken at the same time as the rest of the class or the on the previous day.

Schedule (may be changed to accommodate weather, migration patterns or other unforeseen events)

Tues Jan 10 Binoculars and field guides, introduction to the course, introduction to the research projects, Birds and windows, pre-quiz. Read Chapter 1.

Thurs Jan 12 Climate change assignment, library research techniques, read climate change paper before class, discussion of climate change paper. Paper is available under Files in Canvas.

Tues Jan 17 Avian conservation. Practice bird building census. Sign up for presentations, Read Chapter 15 Bird Conservation.

Thurs Jan 19 Evolution of Birds. External anatomy, OEJ Intro, pioneers, diversification 1 and 2. Read Chapter 3 How birds evolve. How to learn bird songs.

Tues Jan 24 Systematics and Taxonomy. Begin presentations, Birds of North America, OEJ- Guadalupe Island. Read Chapter 2 Avian Diversity and Classification.

Thurs Jan 26 Flight. Inflight movie, feathers and molts. Read Chapters 5 Avian Flight, 4 Feathers and Plumages and Chapter 6 pages 181-184, Chapter 7 pages 240-242.

Tues Jan 31 Digestion and Excretion. Ebird. Bring laptop to class. OEJ- Evolution in Action. Skeletal system Read Chapter 6 Avian Anatomy page 169-181 and 190-196. Chapter 7 pages 215-238 and Chapter 8 pages 265-267. Bring textbook to class.

Thurs Feb 2 Respiration and Circulation. Winter bird id. Bring field guide to class. Read Chapter 6 pages 184-190 and 199-202.

Tues. Feb 7 Reproduction and endocrinology. Dissection part 1. Bring textbook to class. Read Chapter 6 pages 196-200, Chapter 7 pages 238-240 and 242-252 and Chapter 11 pages 407-435.

Thurs Feb 9 Sensory Systems. Dissection 2. Bring textbook to class. Read Chapter 6 pages 202-213, Chapter 7 pages 255-259.

Tues Feb 14 Midterm 1. Winter Bird trip. Dress for the weather. Bring binoculars and field guide to class.

Thurs Feb 16 Song. Read Chapter 10. How to learn bird songs. OEJ Appalachian Spring and Outro. Raptor ID Bring field guide to class.

Great Backyard Bird Count Feb 17-20<sup>th</sup> <http://gbbc.birdcount.org/> Turn in copy of ebird report.

Tues Feb 21<sup>st</sup> – no class

Thurs Feb 23 Foraging and Predation Read Chapter 8. Waterbird ID. Watching Wild Wings video. Bring field guide to class.

Tues Feb 28 Bird Banding or Taxidermy demonstration.

Thurs March 2 Mating systems and breeding biology. Read Chapter 9 and Chapter 11. Shorebird and allies ID 1. Bring field guide to class.

Tues March 7 and Thurs March 9 - no class

Tues March 14 Parental Care. Passerine ID 1. Bring field guide to class.

Thurs March 16 Migration and navigation. Read Chapter 12. Passerine ID 2. Bring field guide to class.

Tues March 21 Populations and Communities. Read Chapters 13 and 14. Passerine ID 3.

Thurs March 23 Willow Park Zoo, First Dam Bring field guide and binoculars, dress for the weather. Provide own transportation.

Tues March 28 Sewage Lagoons and Sue's Ponds or Hyrum Reservoir. Bring field guide and binoculars, dress for the weather

Thurs March 30 Midterm 2 Census Techniques (in BNR 7)

Tues April 4 Mendon Loop Bring field guide and binoculars, dress for the weather

Thurs April 6 Benson Loop Bring field guide and binoculars, dress for the weather

Tues April 11 Hyde Park Lane Bring field guide and binoculars, dress for the weather

Thurs April 13 Amalga Barrens or passerine ID practice. Bring field guide and binoculars, dress for the weather

Tues April 18 Logan River Golf Course Trail- provide own transportation. Bring field guide and binoculars, dress for the weather

Thur April 20 Census. Bring field guide and binoculars, dress for the weather

Tues April 25 Best of Cache Valley Bring field guide and binoculars, dress for the weather

Wed April 26 Probable date of poster session.

Thur April 27 Birdathon. Bring field guide and binoculars, dress for the weather

OEJ- Ordinary Extraordinary Junco videos are available at <http://juncoproject.org/> if you wish to view the videos on your own.

## Grading

Midterm 1 100 points

Midterm 2 100 points

Lab quizzes 2 points each 50 points total (Lowest 4 lab quizzes are dropped, lab quizzes cannot be made up).

Final 100 points

Birds in the news- 2 points extra credit (may do 1 time)

Extra credit Birdathon, 2 points to participate, 5 points winning team, middle school bird tours 5 points

Poster 25 points

Participation in bird census project – 15 census periods 30 points

Participation in woodpecker project – 5 videos 20 points

Great Backyard Bird Count- 5 points

Total 430 points

>93% A

90-93% A-

87-90% B+  
83-87 % B  
80-83% B-  
77-80% C+  
73-77% C  
70-73% C-  
67-70% D+  
60-67% D  
< 60% F

### Songs and calls for Midterm 1

American Robin  
Great Horned Owl  
Northern Pygmy Owl  
Western Screech Owl  
Mourning Dove  
Eurasian Collared Dove  
Black-capped Chickadee  
Mountain Chickadee  
Northern Flicker  
Pine Siskin  
House Sparrow  
American Crow  
Common Raven  
Black-billed Magpie  
Townsend's Solitaire  
Belted Kingfisher  
Mallard  
Dark-eyed Junco  
Downy Woodpecker  
Hairy Woodpecker  
Cedar Waxwing  
White-breasted Nuthatch  
Red-breasted Nuthatch  
Canada Goose

### Songs and calls for midterm 2

Ruby-crowned Kinglet  
American Goldfinch  
Chipping Sparrow  
House Finch  
Cassin's Finch  
White-crowned Sparrow

Red-tailed Hawk  
Sandhill Crane  
Ring-necked Pheasant  
Killdeer  
Long-billed Curlew  
Black-necked Stilt  
American Avocet  
Common Snipe  
Killdeer  
Long-billed Curlew  
House Wren  
Pacific Wren  
Canyon Wren  
Marsh Wren  
Yellow-headed Blackbird  
Red-winged Blackbird  
Western Meadowlark  
Song Sparrow  
Wilson's Snipe

#### Songs and calls for the final

Common Nighthawk  
Broad-tailed Hummingbird  
Western Tanager  
Black-headed Grosbeak  
Yellow Warbler  
Wilson's Warbler  
MacGillivray's Warbler  
Yellow-rumped Warbler  
Northern Oriole (Bullock's)  
Olive-sided Flycatcher  
Warbling Vireo  
Orange-crowned Warbler  
Western Wood -Peewee  
Say's Phoebe  
Hermit Thrush  
Swainson's Thrush  
Spotted Towhee  
Green-tailed Towhee  
Brown-headed Cowbird  
Western Bluebird  
Lazuli Bunting  
Savannah Sparrow  
Vesper Sparrow  
Virginia Rail

## Sora

### PRINCIPLES OF BIRDING ETHICS—American Birding Association

Everyone who enjoys birds and birding must always respect wildlife, its environment, and the rights of others. In any conflict of interest between birds and birders, the welfare of the birds and their environment comes first.

#### Code of Birding Ethics

1. Promote the welfare of birds and their environment.

1(a) Support the protection of important bird habitat.

1(b) To avoid stressing birds or exposing them to danger, exercise restraint and caution during observation, photography, sound recording, or filming.

Limit the use of recordings and other methods of attracting birds, and never use such methods in heavily birded areas, or for attracting any species that is Threatened, Endangered, or of Special Concern, or is rare in your local area;

Keep well back from nests and nesting colonies, roosts, display areas, and important feeding sites. In such sensitive areas, if there is a need for extended observation, photography, filming, or recording, try to use a blind or hide, and take advantage of natural cover.

Use artificial light sparingly for filming or photography, especially for close-ups.

1(c) Before advertising the presence of a rare bird, evaluate the potential for disturbance to the bird, its surroundings, and other people in the area, and proceed only if access can be controlled, disturbance minimized, and permission has been obtained from private land-owners. The sites of rare nesting birds should be divulged only to the proper conservation authorities.

1(d) Stay on roads, trails, and paths where they exist; otherwise keep habitat disturbance to a minimum.

2. Respect the law, and the rights of others.

2(a) Do not enter private property without the owner's explicit permission.

2(b) Follow all laws, rules, and regulations governing use of roads and public areas, both at home and abroad.

2(c) Practice common courtesy in contacts with other people. Your exemplary behavior will generate goodwill with birders and non-birders alike.

3. Ensure that feeders, nest structures, and other artificial bird environments are safe.

3(a) Keep dispensers, water, and food clean, and free of decay or disease. It is important to feed birds continually during harsh weather.

3(b) Maintain and clean nest structures regularly.

3(c) If you are attracting birds to an area, ensure the birds are not exposed to predation from cats and other domestic animals, or dangers posed by artificial hazards.



4. Group birding, whether organized or impromptu, requires special care.

Each individual in the group, in addition to the obligations spelled out in Items #1 and #2, has responsibilities as a Group Member.

4(a) Respect the interests, rights, and skills of fellow birders, as well as people participating in other legitimate outdoor activities. Freely share your knowledge and experience, except where code 1(c) applies. Be especially helpful to beginning birders.

4(b) If you witness unethical birding behavior, assess the situation, and intervene if you think it prudent. When interceding, inform the person(s) of the inappropriate action, and attempt, within reason, to have it stopped. If the behavior continues, document it, and notify appropriate individuals or organizations.

Group Leader Responsibilities [amateur and professional trips and tours].

4(c) Be an exemplary ethical role model for the group. Teach through word and example.

4(d) Keep groups to a size that limits impact on the environment, and does not interfere with others using the same area.

4(e) Ensure everyone in the group knows of and practices this code.

4(f) Learn and inform the group of any special circumstances applicable to the areas being visited (e.g. no tape recorders allowed).

4(g) Acknowledge that professional tour companies bear a special responsibility to place the welfare of birds and the benefits of public knowledge ahead of the company's commercial interests. Ideally, leaders should keep track of tour sightings, document unusual occurrences, and submit records to appropriate organizations.

Please Follow this Code and Distribute and Teach it to Others

*The American Birding Association's Code of Birding Ethics may be freely reproduced for distribution/dissemination. Please acknowledge the role of ABA in developing and promoting this code with a link to the ABA website using the url <http://www.aba.org>. Thank you.*