
ORNITHOLOGY (BIOL 3950/5950):
Spring 2014 Syllabus
Dr. Brad Bergstrom
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1107 Biol/Chem 333-5770
(Offc. Hrs. 10:30-11:20 MW)
Lect. MWF 12:00-12:50 (BC 1025)
Lab/Field 7:30-10:20 (BC 1088)

Required Texts: (1) Gill, F.B. 2007. Ornithology. 3rd ed. W.H. Freeman, N.Y. (2) Dunn, J.L., and J. Aldorfer. 2011. Field Guide to the Birds of North America. 6th ed. National Geographic Society.

Helpful Website: All About Birds (Cornell Lab of Ornithology) <http://www.allaboutbirds.org/>

Other Helpful Book: Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Simon and Schuster, New York.

LECTURE SYLLABUS

Week TopicChapters in Gill

- 1 Diversity of birds; Geographic patterns; General avian characteristics; Phylogenetic systematics.xxi-xxvi, Chapt. 1, (Skim 20), 3
- 2,3 Origin and early evolution of birds; (reptilian ancestry, fossil birds, DNA evidence). Extinction. Variation and evolutionary diversification (polymorphism, ecotypes, hybrids). Speciation models; Kin selection; Coevolution; Biogeography of birds.Chapt. 2, 19
- 4,5 Integument, feathers, molt; Flight; Anatomy & PhysiologyChapt. 4,5,6
- 6,7 Sensory/nervous systems; Vocalizations; Behavior; Reproduction; Annual cycles;Chapt. (Skim 7,8), 14, 9
- 8,9 Migration; Social behaviorChapt. 10,11
- 10,11 Life History; Mates and mating systemsChapt. 12,13
- 12,13 Nests; Development of young, and parental careChapt. 15,16
- **17-21/22 April: Tentative dates for "Cape-to-Keys" Florida fieldtrip***
- 14,15 Avian communities; ConservationChapt. 20,21

Exam Dates: #1: February 21; #2: March 28; #3: Thurs., May 8, 12:30-2:30.

NOTICE: Attendance at ALL LABS is MANDATORY! Points will be deducted for each absence. Tardiness = Absence! I also reserve the right to penalize excessive absence from lecture.

LABORATORY & FIELD

Please assemble in the lab at 7:25 a.m. to check out binoculars; van will leave from the northeast door of building. Wear appropriate field attire (long pants, boots or high-tops; rain gear if advisable; bug spray); bring field journal, field guide. *Most days we will go in the field for lab, and we will leave the building promptly at 7:30. That means you need to do whatever it takes (multiple alarm clocks, wake-up service, buddy system...) to make sure that your mind and body are present in the lab a little bit before 7:30 am on each scheduled day. The bus will not wait for you; so if you're late, you're absent.*

TENTATIVE LABORATORY TOPICS

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|---|------------------------|
| Week 1,3 -- Local birds in winter | QUIZ WEEK 3 |
| Week 2,4 -- Bird Anatomy: external gross, skeletal, feathers, feet, bills, internal organs | QUIZ WEEK 5 |
| Week 6,9 -- Bird Sounds I and II. | QUIZ WEEK 9 |
| Week 11 -- Museum Preparation, or nests, or other | FINAL FIELD QUIZ May 2 |
| Week 15 -- Special Projects Due (May 5; Topics TBA) | |

(Note: most weeks we will be in the field for lab; weeks 2 and 4 we will be in lab).

*Bonus Points will be awarded: (1) for species identified in field and properly annotated in journal, beyond 90 species baseline [10 pts per 60 species]; (3) special Saturday/weekend fieldtrip attendance 3 pts. each (4 pts for Feb. overnight; 9 pts for April multi-day trip; See Below).

GRADING :

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|--|----------------------------|
| Lecture Tests @100 pts | = 300 |
| 4 Lab/Field quizzes | = 100 (approx.) |
| Lab/Field Project | = 40 |
| Semester Bird List (base points, up to 90 spp.) | = 15 |
| *Bonus Points | = 35 max. (10 pts/60 spp.) |

TOTAL= 465 (=100%, but 500 pts. possible with bonus)

A/B/C/D cutoffs will be 90/80/70/60%, *or lower*, at my discretion (NOTE: not lower for 5950).

Tentative Dates and Destinations for optional Saturday and longer trips:

- Jan. 25: St. Marks National Wildlife Refuge (ducks, shorebirds, other waterbirds)
- Feb. 21-22 (Fri-Sat: Ft. Clinch and Talbot Islands State Parks, NE Florida (sea and land birds), includes optional overnight at motel in Fernandina Beach
- March 29: St. Marks and other stops en route or on Gulf Coast
- April 17-21/22: either a 4- or 5-night trip (TBD) through Florida, including Everglades and Keys, includes camping most nights; chance for many species not seen other trips
- May 3: Reed Bingham SP, GA, or Ichetucknee Springs SP, FL (migrant landbirds)

STUDENTS WITH DISABILITIES: Students requiring classroom or testing accommodations because of documented disabilities should discuss their needs with the instructor at the beginning of the quarter. To register with the Access Office, go to 1115 Nevins or call 245-2498 (voice) or 219-1348 (tty).

COURSE GOALS AND LEARNING OUTCOMES:

This course is designed to give the Biology Major a basic understanding of the biology of birds, including anatomy, physiology, reproduction, behavior, ecology, and evolution. Class Aves includes nearly 10,000 species of uniquely adapted warm-blooded vertebrates, which occupy nearly every environment and niche available on Planet Earth. Birds are the most observable group of vertebrates, due to their mostly diurnal habits and tolerance of humans, and so direct non-invasive observation of a wide diversity of birds is possible in a course as it is with no other group of vertebrate animals. The course features a heavy emphasis on identification and observation of birds in their natural habitats. In addition to visual learning, acoustic memory skills are taught in this class, as they arguably are in no other.

With reference to the Educational Outcomes for the B.S. Degree in Biology (see p. 113 of 2009-2010 VSU Undergraduate Catalog) and as explained above, BIOL 3950 is particularly designed to give the student extensive background in Outcomes #2 and #5.

With reference to the VSU General Education Outcomes¹, BIOL 3950 will significantly address the following: #3) Students will use computer and information technology when appropriate; #4) Students will express themselves clearly, logically, and precisely in writing and in speaking, and they will demonstrate competence in reading and listening; #5) Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices; #7) Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written, and visual materials.

¹<http://www.valdosta.edu/academic/VSUGeneralEducationOutcomes.shtml>