

1-2010

BIOL 304.01: Ornithology

Richard L. Hutto

University of Montana - Missoula, hutto@mso.umt.edu

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Recommended Citation

Hutto, Richard L., "BIOL 304.01: Ornithology" (2010). *Syllabi*. 1740.
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Biology 304, Ornithology
Tentative Course Syllabus, Spring 2010
MWF 10-11, HS 207

	Prof/TAs	E-mail	Office	Office hours
Prof:	Richard Hutto	hutto@mso.umt.edu	HS 211	MW 11-12
TAs:	Tom Rogers	thomasalanrogers@gmail.com	HS 203	W 11-12
	Kristen Crandell	kristen.crandell@gmail.com	HS 208	Tu 11-12

Required texts:

1. Gill, F. 2007. Ornithology. W. H. Freeman and Co., New York.
2. Any field guide that covers birds of the western United States.

Date	Lecture	Reading*	Lab/field	Quizzes
Jan 25	Course overview, policies		Topography; Bird ID part 1	
Jan 27	The essence of birds	3-24		
Jan 29	Origin of birds	25-49		
Feb 1	Speciation, zoogeography	572-601	Taxonomy; Bird ID part 2	Lab Quiz 1
Feb 3	Mechanics of flight	115-140		
Feb 5	Process of science		Feathers; Bird ID part 3	Lab Quiz 2
Feb 8	Origin of flight	40-41		
Feb 10	More on flight			
Feb 12	LECTURE EXAM 1		Osteology; Bird ID part 4	Lab Quiz 3
Feb 15	<i>No class--Holiday</i>			
Feb 17	Molt patterns	108-113		
Feb 19	Plumage coloration I	105-108	Int Anatomy I; Bird ID part 5	Lab Quiz 4
Feb 22	Plumage coloration II			
Feb 24	Plumage coloration III			
Feb 26	Special senses I	183-200	Int Anatomy II; Bird ID part 6	Lab Quiz 5
Mar 1	Brains and behavior	200-214		
Mar 3	Migration-ultimate I	273-295		
Mar 5	LECTURE EXAM 2		review Bird ID part 7 TH eve EXAM	Lab Quiz 6
Mar 8	Migration-ultimate II			
Mar 10	Migration-ultimate-III			
Mar 12	Migration-proximate I	245-271	Discuss project Bird ID part 8	Lab Quiz 7
Mar 15	Orientation and navigation	295-306		
Mar 17	Winter ecology			
Mar 19	Vocal communication I	215-242	Field Trip I -- regular lab time	
Mar 22	Vocal communication II			
Mar 24	Vocal communication III			
Mar 26	LECTURE EXAM 3		<i>Spring Break</i>	
Mar 29- Apr 2	<i>Spring Break</i>			

Date	Lecture	Reading*	Lab/field	Quizzes
Apr 5	Territoriality/coloniality	307-332	Field trip II	
Apr 7	Mating systems I	335-377		
Apr 9	Mating systems II			
Apr 12	Clutch size	427-30; 520-30	Bird ID part 9	Lab Quiz 8
Apr 14	Brood parasitism	377-385		
Apr 16	Communal breeding	385-398		
Apr 19	Census; Population biology	533-569	Field trip III	
Apr 21	LECTURE EXAM 4			
Apr 23	Niche theory I			
Apr 26	Niche theory II		Bird ID review	Lab Quiz 9
Apr 28	Habitat selection	603-634		
Apr 30	Fire ecology		TH eve EXAM	
May 3	Community ecology		Field trip IV	Lab Quiz 10 (in the field)
May 5	Island biogeography	635-684		
May 7	Human population			
May 10	<i>Final exam, Mon 10-12am</i>			

* page numbers from your textbook (Gill 2007)

Course policies, and expectations of students

Lectures—In most cases, I will use a traditional lecture format, but I allow students to listen attentively by making my notes available through electronic reserve at the library (<http://eres.lib.umd.edu/>). Your password for access to Biology 304 materials is “bird10.”

Reading—The reading in Gill (2007) is meant to complement lecture material. There will be no testing on book topics that are not also covered in lecture, unless otherwise stated. If you really want to get a sense of what’s happening these days in ornithology, read the current journals and popular magazines listed in the “Selected Ornithological References” handout.

Laboratory—These sections meet for 2 hours per week unless there is a field trip that involves driving, in which case you go into the field for 4 hours from 7-11 am on Tuesday, Thursday, or Saturday (as set up in class). The lab exercises are meant to complement lectures, to enable you to see bird features up close, and to help you learn bird ID characteristics and life history facts. You should bring any ERES handouts and your field guide to lab. Use of museum specimens is a privilege that should not be abused. Handle specimens carefully, always placing them gently on their backs so that all parts of the bird’s body touch the table simultaneously.

Field—The vehicles for trips will leave at 7am, not 10 minutes after the hour. Attend the field session that you signed on to in class, and bring no visitors on the field trips. Do bring binoculars. Stay with the group so you can share your observations. Keep talking to a minimum and listen to what the instructors have to say; that’s the most rapid avenue to becoming a competent birder.

Learning Expectations—In lecture, I expect students to be able to understand material more deeply than that required to successfully “regurgitate” facts. I lean heavily toward trying to find out whether students truly understand concepts, the reasoning behind arguments, and how researchers use the scientific method to make progress in building our understanding of the natural world. Some students mistakenly believe that they understand concepts because they have memorized every word in their notes, but the regurgitation of memorized words will not ensure a good grade on a lecture exam. The best way to find out how well you understand a topic is to *explain the topic to somebody without the use of notes*. In short, doing well will take daily review outside of class time! I provide extra help by posing questions on ERES.

Sometimes I present ideas that may have been subsequently debunked through ingenious research. Why don't I simply tell you what the current thinking is, and skip the junk that's fallen by the wayside? I don't because I want you to see the flow of discovery and the process of science, which involves the development of a logical framework of hypotheses and predictions, and subsequent disproof of ideas through the discovery of facts that are inconsistent with predictions. The emergence of a fact that serves to disprove an idea or the emergence of a new hypothesis that was previously overlooked but perfectly consistent with existing information is a thing of beauty...you need to develop a feeling for the **development** of understanding, not current understanding in a vacuum.

In lab, I expect students to glean facts related to bird morphology, anatomy, taxonomy, and natural history. In contrast with lecture, this is entirely a memorization task.

Exam style—As noted above, lab exams involve pure memorization, so if you spend a reasonable amount of time learning the material, you will get a good grade. In contrast, questions on lecture exams will require three things: (1) pure memorization—Did the student learn the material presented? (2) logic—Did the student understand the significance or relevance of each bit of information? (3) transposition—Can the student take what is known and understand the implications, or can the student represent known information graphically or symbolically?

For all three categories of questions, grammar is of utmost importance. If you write something that does not accurately (grammatically speaking) reflect what you **meant** to write, then the answer is technically incorrect. It is not that you need to write your answer using certain words, or in a certain way; it's that you need to write what you mean. Developing a clear, concise, and unambiguous form of written and verbal communication is a critically important part of your education.

Exam policy—I do not give make-up lecture exams, so take note of the dates scheduled on the syllabus. If you see conflicts (beyond your control), tell me now. The lowest 2 scores for lab quizzes (not counting the last field quiz) will be dropped, eliminating the need for makeup quizzes as well. The two major lab exams will be held on Thursday evenings; you will sign up for a time slot in lecture.

Exam grading policy—If there is an adding error on an exam, see me immediately and I'll change the score. Otherwise, the overall quality of your test answers relative to the answers of others in the class is probably accurately reflected in the test score you receive. I always give partial credit if the possible number of points for a question is greater than one, but I also use the full range of possible points to reflect differences in the quality of answers that I read.

Important aspects of an answer include not only whether the concept was understood, but also how well you express your understanding of a concept. I am especially interested in legibility, organization, grammar, spelling, sentence completeness, coherence, conciseness, clarity, freedom from extraneous information, and, in some cases, the ability to express your understanding using symbolic logic (graphs and figures). Much of this is **subjective**, and you have to trust that I can recognize and rank the quality of answers; you are paying me for my subjective opinion about your understanding of ornithology relative to other ornithology students in the nation, and I believe I can do so fairly and accurately.

Invariably, some questions will be graded a bit too harshly and others a bit too leniently. Nonetheless, if you believe that your test was graded too harshly overall, and that you should have received a greater point total, you may return the test for re-evaluation. Be warned, however...if I only re-evaluate those individual questions that you believe were graded too harshly, it would lead to an inaccurate total relative to others who choose not to contest points, and who, therefore, still retain a loss of some points due to questions that they may have had graded overly harshly. Therefore, to be fair to those who may not wish to approach the instructors about points, and to discourage rewarding aggressive behavior for its own sake, I should review and re-grade your entire test. I will be happy to do so, if you wish. Simply note the question(s) of particular concern, and note why you feel the scoring may have been incorrect. I will review every question, with an eye toward finding errors due to both overly lenient and overly harsh grading. Point gains and/or point losses will be noted, and the new point total recorded. I will then return the re-graded test in a day or two.

Writing requirement—Over the course of the semester, I will assign a few recent papers from the current literature for you to read. The idea is for you to take an important lecture topic and develop a written description of the question, significance, and results, how the results serve to clarify or make more complete our understanding of a topic. Your analysis should be suitable for insertion into a lecture on that topic and should include (1) an introduction to the big issue (What's the main lecture topic, what specific related question does the research address, and why an answer to the question is deemed by the author to be significant), (2) the nature of the experiment or observations associated with the research, including the conceptual design (with alternative outcomes and associated predictions), (3) the main results (and any relevant figures) that emerge from the new research findings, and (4) your overall conclusion about the quality of work and whether the work really results in a new synthetic understanding related to the topic.

Your synthesis should be presented as one coherent essay on the topic or issue of interest. This should be typed (double-spaced) in a Word document and emailed to me (hutto@mso.umt.edu) as an electronic copy within a week after the paper is assigned. We will use "track changes" to provide a review so that you can re-write the essay taking into account

any editorial suggestions. You can then re-submit the edited version for re-grading; your point total will be the average of the two scores. There is no page limit, but any essay will probably take no more than a couple pages of text. Grades will be based on how well you address the points outlined above (20 points) and how well the essay is written (organization and grammar—10 points). Late papers will be docked 3 points per day. You will have one more brief writing assignment associated with a field project, and that will be spelled out later.

Review sessions—Instructor-run review sessions generally defeat the purpose of trying to get you to view studying as an ongoing process. Students need to develop the habit of regularly reviewing lecture material, and not waiting until the night before an exam to try to decipher material from the previous several weeks. My experience with study sessions is that students will tend to use them as their **only** time to really begin to think about lecture material, and that is a poor way to encourage good study habits. Instead, I invite you to use the discussion forum with other students on ERES. The TAs and I are also available for mini-review sessions via office hours, during which you may wish to discuss or clarify lecture material. Collectively, there will be some 100 + hours available through such means. Thus, if you need help understanding the lecture material, there are plenty of “review sessions” available through ERES and instructor office hours.

Course grading scheme

Assignment	Total points	Percent of grade
Exam I	80	11
Exam II	80	11
Exam III	80	11
Exam IV	80	11
Final	80	11
Lab Exam I	70	10
Lab Exam II	70	10
Lab Quizzes	70	10
Project essays	120	16

Dropping, adding, changing grade option—University policies on drops, adds, changes of grade option, or change to audit status will be strictly enforced in this course. These policies are described in the “Academic Policies and Procedures” section of the 2009-2010 catalog (<http://www.umt.edu/catalog/acad/acadpolicy/default.html>). Students should note that after the 30th instructional day of the semester, such changes are NOT automatically approved. They may be requested by petition, but the petition **MUST** be accompanied by documentation of **extenuating circumstances**. Requests to drop a course or change the grade basis to benefit a student’s grade point average will not be approved.

Disabilities—The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson 154. I will work with you and DSS to provide an appropriate accommodation.