

Instructor: Donald Winslow, Ph.D.

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Office hours: 10-11 a.m., Tuesday (or by appointment)

10 a.m.-12 noon, Thursday (or by appointment)

<http://intranet.stgregorys.edu/people/faculty/dewinslow>

<http://donaldwinslow.info>

Class sessions

Zoology lecture meets in BH318 on Mondays and Wednesdays and Fridays from 9-9:50 a.m. Zoology lab meets Tuesday mornings from 8-10:30 a.m. in BH401 (the biology lab). "Lecture" sessions include lectures, discussions, and exams. Some of the "laboratory" sessions are field excursions; *i.e.*, we conduct them outside.

Course description (as printed in the SGU Course Catalog)

Provides the student with an appreciation for the unity and diversity of animal life, including a survey of major animal phyla, natural history, zoogeography, phylogenetic relationships, taxonomy and ecology. Three hours lecture and one laboratory each week. Laboratory fee required. Prerequisite: LS 1113/1111 and PS 1363/1361.

Student learning outcomes

In LS 2014 students develop skills to:

- (1) explain and apply the fundamental organizing principles of zoology;
- (2) describe the phylogeny, morphology, and ecology of various animal taxa;
- (3) interpret technical articles in professional zoological journals;
- (4) compose scholarly papers using appropriate professional format;
- (5) apply standard laboratory methods safely and accurately;
- (6) explain the philosophical basis of science and mathematics;
- (7) assess ethical issues regarding biodiversity protection;
- (8) describe major events in the history of zoology;
- (9) explain and apply the principles of ecology, heredity, and biological evolution;
- and (10) apply the scientific method to answer questions about animals.

Textbooks and materials:

Hickman, Cleveland P., Jr.; Susan L. Keen; Allan Larson; and David J. Eisenhour. 2011. *Integrated Principles of Zoology*, 15th ed., McGraw-Hill, New York. ISBN 978-0-07-304050-9

Hickman, Cleveland P., Jr.; Lee B. Kats; Susan L. Keen; and Bill Ober. 2011. *Laboratory Studies in Integrated Principles of Zoology*, 15th ed., McGraw-Hill, New York. ISBN 978-0-07-304051-6.

Each student also needs a lab notebook in which to record lab and field observations. This should be separate from the notebook that you use for lecture notes. At the end of the semester you will turn in your lab notebook; you will want to hold on to your lecture notes to prepare for the final examination.

Course requirements and evaluation: (dates are approximate)

Assignments	Date due	Points
Participation	Every lab and discussion	50
Exam I	14 February	40
Waterfowl report	2 March	50
Exam II	21 March	40
Exam III	13 April	40
Squirrel report	20 April	60
Lab notebook	26 April	30
Lab practical	26 April	40
Final exam	TBA	50
Total		400

Grading scale:

A 360-400; B 320-359.5; C 280-319.5; D 240-279.5; F 0-239.5

Reading assignments will be announced in class and/or posted at:

<http://intranet.stgregorys.edu/people/faculty/dewinslow> or <http://donaldwinslow.info>

Exams--Lectures and readings do not repeat each other perfectly; students are responsible for material from both. Exams are designed to assess students' ability to apply zoological principles, as well as knowledge of animal taxonomy, morphology, and ecology. The final exam will be comprehensive; i.e., it will include material from lectures and reading assignments covered by earlier exams.

Participation—Your grade includes 50 possible points for participation. This is based on my subjective assessment of how completely you participate in laboratory exercises, field exercises, and discussions.

Lab notebook—You need to have a lab notebook for this course in which you record your observations from laboratory exercises (including the field trips). Always record the date and the title of the exercise. Include drawings of specimens, answers to questions posed in the lab manual, measurements and data, and any other observations. I will grade your lab notebooks at the end of the semester based on a holistic assessment of completeness, neatness, and attention to detail.

Writing assignments—You will be writing two scientific reports this semester, presenting the results of our group field exercises. In one of these projects we will measure the time budgets of fox squirrels; in the other we will survey waterfowl communities on nearby lakes. Scientific reports follow a very specific format, and we will discuss that in detail. I will assess your reports based on spelling, grammar, style, format, accuracy, organization, clarity, and reasoning.

Readings--Readings from course textbooks and other sources will be assigned as we go along.

Schedule--My wife and I are expecting a newborn in late February or early March, so our schedule will have to be flexible. Students will be expected to make progress on coursework during the time that I am out of the classroom.

Schedule of labs for zoology, Spring 2011 (subject to change)

For an updated schedule, check <http://intranet.stgregorys.edu/people/faculty/dewinslow>

Readings, if not otherwise specified, are from Hickman *et al.* 2011 *Laboratory Investigations in Integrated Principles of Zoology*, 15th ed., McGraw-Hill, NY.

Date	Exercises	Readings
18 January	Lab safety, microscopy, protozoa	Exercises 1, 6
25 January	Animal classification	Exercise 5
1 February	Porifera & Radiata	Exercises 7-8
8 February	Acoelomates & pseudocoelomates	Exercises 9-10
15 February	Waterfowl field trip	hand-outs, webpage
22 February	Karen & Donald's due date!!! (work on waterfowl report)	see webpage
1 March	Mollusca & Annelida	Exercises 11-12
8 March	Arthropoda	Exercises 13-15
15 March	Spring Break (no class)	
22 March	Echinodermata	Exercise 16
29 March	Protochordates & fishes	Exercises 17-18
5 April	Fox squirrel time budget	hand-outs, webpage
12 April	Amphibians & reptiles	Exercises 19-20
19 April	Birds & mammals	Exercises 21-22
26 April	Lab practical	comprehensive

Schedule of lectures for zoology, Spring 2011 (subject to change)

For an updated schedule, check <http://intranet.stgregorys.edu/people/faculty/dewinslow>

Readings, if not otherwise specified, are from Hickman *et al.* 2011 (*Integrated Principles of Zoology*, 15th ed., McGraw-Hill, NY) or from Reading and Miller 2000 (*Endangered Animals: A Reference Guide to Conflicting Issues*, Greenwood Press, Westport, CT).

Date	Topic	Readings
12 Jan	Greetings	
14 Jan	Introduction to course	syllabus
17 Jan	Pre-test, introduction to zoology	Hickman, Ch. 1
19 Jan	Evolution	Hickman, Ch. 6
21 Jan	Morphology	Hickman, Ch. 9
24 Jan	Animal ecology	Hickman, Ch. 38 pp 825-939

26 Jan	Animal conservation	Hickman, Ch. 38 pp 839-841
28 Jan	Taxonomy	Hickman, Ch. 10 pp 199-203
31 Jan	Phylogeny	Hickman, Ch. 10 pp 203-214
2 Feb	Reproduction	Hickman, Ch. 7
4 Feb	Discussion on endangered species	from Reading & Miller
7 Feb	Development	Hickman, Ch. 8
9 Feb	Waterfowl research & scientific writing	website (link at top of page)
11 Feb	Review for exam I	Ch. 1, 6, 7, 9-10, 38
14 Feb	Exam I	Ch. 1, 6, 7, 9-10, 38
16 Feb	Waterfowl data	website (link at top of page)
18 Feb	Porifera & Radiata	Ch. 12-13
21 Feb	Acoelomates & pseudocoelomates	Ch. 14-15, 18
23 Feb	Winslow may be out	Work on waterfowl report
25 Feb	Winslow may be out	Work on waterfowl report
28 Feb	Winslow may be out	Work on waterfowl report
2 March	Waterfowl report due at www.turnitin.com	Cite your sources!
4 March	Molluscs & Annelids	Ch. 16-17
7 March	Trilobites, Chelicerates, & Myriapods	Ch. 19
9 March	Crustaceans & Insects	Ch. 20-21
11 March	Review for exam II	Ch. 12-21
21 March	Exam II on non-deuterostome animals	Ch. 12-21
23 March	Echinoderms	Ch. 22
25 March	Protochordates	Ch. 23
28 March	Fishes	Ch. 24
30 March	Discussion on prairie dogs	TBA
1 April	Amphibians	Ch. 25
4 April	Squirrel research	website (link at top of page)
6 April	Reptiles	Ch. 26
8 April	Birds	Ch. 27
11 April	Mammals	Ch. 28
13 April	Exam III on deuterostomes	Ch. 22-28
15 April	Support, protection, movement, homeostasis	Ch. 29-30
18 April	Respiration & circulation, nutrition & digestion	Ch. 31-32

20 April	Squirrel report due at www.turnitin.com	Cite your sources!
27 April	Internal signaling & immunity, animal behavior	Ch. 33-36
29 April	Review for final	Ch. 29-36
May	Final exam	Ch. 29-36

Course policies:

Exams and assignments--Ordinarily exams will not be rescheduled for individual students. Assignments should be turned in on time. I will deduct 10% for each day a paper is late. If I do not have sufficient time to read a late paper, it will not receive a grade.

Attendance and promptness--The SGU attendance policy, as printed in the Course Catalog, reads:

Students are expected to attend every class session of the courses in which they are enrolled. Instructors are required to keep records of student attendance. Each absence impacts a student's grade, either directly or indirectly. Students are ordinarily expected to make up any work missed as a result of an absence.

The University's minimum standard is that absences of 20% or more ordinarily will lower the course grade one letter for each absence beyond this threshold or, after issuing a warning through the registrar's office, faculty may drop the student from the course. Faculty may have more restrictive attendance policies stated in individual course syllabi. Co-curricular activities are ordinarily excused, as long as the total number of absences does not exceed the University's minimum attendance standard. Arriving late for a class or leaving early from a class may be counted as an absence or partial absence (in accord with the instructor's attendance and tardiness policy as published on the course syllabus).

We will have about 54 class sessions for this course (including the final examination). That means that a student who misses more than 10 class meetings will be subject to the above penalties. Please arrive promptly. I reserve the right to count it as an absence if a student arrives unreasonably late or leaves before being dismissed.

Academic honesty--The SGU academic integrity policy, as printed in the course catalog, reads:

St. Gregory's University expects its students to demonstrate integrity in their academic work.

Acts violating academic honesty include:

1. Cheating on examinations, quizzes or other written work;
2. Giving assistance to or receiving assistance from another during an examination or quiz;
3. Plagiarism, defined as:
 - the use of another's published work (either through a full quotation, partial quotation, paraphrase, or summary of an author's ideas);
 - the use of another student's work as one's own; or
 - the purchase, use or provision of an already prepared paper;
4. Obtaining, or attempting to obtain, copies of uncirculated examinations or examination questions;
5. Falsifying any academic record.

Students found to have committed one or more of acts 1-4 will receive an F for the examination, written work or quiz in question, and (if deemed appropriate by the instructor) for the course. The instructor must then provide written notification of the incident to the dean of the College of Arts and Sciences. If the dean determines that it is not the first incident of academic dishonesty by the student, the matter will be referred to the Academic Council. After reviewing the incident, the Academic Council will recommend to the dean an appropriate penalty, which may include academic probation for up to one year, suspension for up to one year, or expulsion.

An alleged violation of act 5 will be adjudicated in accord with the student disciplinary procedures describe in the SGU Student Handbook.

Classroom behavior--Please do not disrupt the classroom. Avoid interrupting the instructor or a classmate. Treat others with respect. If you are having trouble getting a word in, you can raise your hand. Do not engage in side conversations. Electronic devices should be turned off and put away unless they are being used to participate in the class or take notes.

Other university policies

Policy on Discrimination and Equal Opportunity

St. Gregory's University is an equal opportunity, co-educational and Catholic institution of higher learning. It is open to students and faculty of all faiths, and does not discriminate in admissions or employment on the basis of race, color, gender, age, disability, religion, national origin or veteran status.

ADA Policy

St. Gregory's University complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities. Please present your written accommodation request to the Dean of Student Life prior to the end of the **first week of classes**.

Resources

American Society of Mammalogists
<http://www.mammalsociety.org/>

Birdnet (Ornithological Council, many links to other ornithological resources)
<http://www.nmnh.si.edu/BIRDNET/>

Biodiversity and Conservation, a hypertext book by Peter J. Bryant
<http://darwin.bio.uci.edu/~sustain/bio65/Titlepage.htm>

Deep Fork Audubon Society
<http://deepfork.org>

Ecological Society of America
<http://www.esa.org>

Google Scholar

<http://scholar.google.com/schhp?hl=en>

Index for Mammalian Species

<http://www.science.smith.edu/departments/Biology/VHAYSSEN/msi/default.html>

James J. Kelly Library, St. Gregory's University

<http://intranet.stgregorys.edu/places/Library/default.htm>

Learning the Birds, by Ruth Beasley

<http://www.learningthebirds.com>

Macaulay Library of Animal Sounds and Video

<http://macaulaylibrary.org/index.do>

McGraw-Hill Online Resources for zoology

http://www.mhhe.com/sem/online_learning_centers/index.html#zoology

Natural Selection (a gateway to quality biology sites; click on “Zoology”)

<http://nature.ac.uk/>

Nature Pages on the Web

<http://www.nicertutor.com/sketches/nature.html>

Oklahoma Department of Wildlife Conservation

<http://www.wildlifedepartment.com/>

Oklahoma Ornithological Society

<http://www.okbirds.org/>

Ornithological Societies of North America

<http://www.osnabirds.org>

Partners in Flight

<http://www.partnersinflight.org>

Society for Conservation Biology

<http://www.conbio.org>

Society for Integrative and Comparative Biology

<http://www.sicb.org/>

Tree of Life Web Project

<http://tolweb.org/tree/phylogeny.html>

Turnitin.com (where you submit your research reports for this course!)

<http://www.turnitin.com>

University of Michigan Museum of Zoology Animal Diversity Web
<http://animaldiversity.ummz.umich.edu/site/index.html>

U.S. Fish and Wildlife Service
<http://www.fws.gov>

U.S. Geological Survey Northern Prairie Wildlife Resource Center—Biological Resources
<http://www.npwrc.usgs.gov/resource/resource.htm>

The Wildlife Society
<http://joomla.wildlife.org/>