

**COURSE PREFIX/NUMBER/TITLE:** GENERAL ZOOLOGY - BIOL 170

**NUMBER OF CREDITS:** 4 (four) semester credits

**COURSE DESCRIPTION:** A survey of the Protist and Animal kingdoms and an introduction to animal evolution, physiology, behavior, and ecology. This course consists of two one-hour lectures, and a large online component each week plus a once per week two-hour lab.

**PRE/CO-REQUISITES:** None

**COURSE OBJECTIVES:**

- 1) To learn and retain information essential to a broad knowledge of zoology.
- 2) To understand and utilize scientific methods of inquiry.
- 3) To understand current scientific views of natural phenomenon.
- 4) To practice sound, safe, and sensible laboratory techniques.
- 5) To appreciate the historic development of science.
- 6) To approach and solve problems by utilizing logical thought processes.
- 7) To apply scientific information and principles to everyday life.
- 8) Collect and organize data in a systematic manner.
- 9) To analyze and interpret data in accordance with scientific principles to make informed decisions and ethical choices.
- 10) To recognize the relationship between science and technology.

**INSTRUCTOR:** Taija Hahka (Vermeulen); MS, doctoral candidate (PhDc).

**OFFICE/HOURS:** Over zoom, reserve with Taija as needed

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**WEB/INSTRUCTED LIVE LECTURE:** 3:00 - 3:50 PM on **Monday** and **Friday** each week.

**ONLINE COURSE COMPONENT:** 3:00 - 3:50 PM on **Wednesday** each week **UNLESS OTHERWISE INSTRUCTED\*\*\*\***

**LAB:** 10:00-11:50 am on Thursday in NSC 128

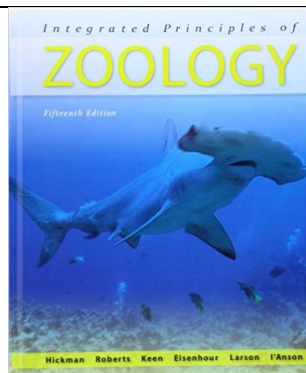
**TEXTBOOK:** Integrated Principles of Zoology, Hickman, Roberts, and Larson, **15<sup>th</sup> or 16<sup>th</sup> Edition**

**Publisher :** McGraw-Hill  
Science/Engineering/Math; 15th  
edition (October 1, 2010)

**Hardcover :** 928 pages

**ISBN-10 :** 0073040509

**ISBN-13 :** 978-0073040509



**TRAVEL FOR FIELD/LAB WORK:** Students may need to travel for field/lab work during the semester.

**COURSE REQUIREMENTS:**

**GRADING:** Grading is based on a standard college curve, where students earn a grade based upon the percent of total possible points they obtain. The lecture component of this course consists of **800** points (12 quizzes worth 10 points each, assignments worth 100 points, 4 in person lecture exams worth 100 or 125 points each, and online exam worth 25 points, and one final exam worth 150 points). Quizzes and assignments may not be made up, but students will be able to drop the lowest two scores of the 11 quizzes given during the semester. There is a one-week grace period to make up any missed exam. Any missed exam not made up within the allotted time will be given a **zero**. Make-up exams may be of an essay nature and are usually considered more difficult. (Note: It is the responsibility of the student to schedule make-up work with the instructor at a time convenient to both parties.) The laboratory component is taught by a different instructor but is worth 10% of your total grade for the course. Please see the figure below for the breakdown.

Item	Points	Percent of Total Grade	Side Note
Exam 1 (in person)	100	<b>90%</b>	<p>**Final exam is cumulative, covering all the chapters. Therefore, if your final exam score exceeds, your current grade in the class (at the time of the final exam) your overall score will be increased to the grade you obtained on your final exam. (ex. If you are currently at a "C" for the course, but then score an "A" on the final exam, then your final grade will be an "A")</p> <p>*The lowest two quiz scores will be dropped.</p>
Exam 2 (in person)	125		
Exam 3 (in person)	100		
Exam 4 (in person)	100		
Exam 5 (online exam)	25		
Final Exam (in person)	150**		
Quiz 1-12 (10 pts each, online)	100*		
Online Assignments 1-11 (5-10 points each, online)	100		
<b>Total points:</b>	<b>800</b>		
Lab	Instructed apart from lecture	<b>10%</b>	

**FINAL LETTER GRADES ARE ASSIGNED BASED ON THE FOLLOWING CRITERIA:**

- A = 90-100% of the total points
- B = 80-89% of the total points
- C = 70-79% of the total points
- D = 60-69% of the total points
- F = 59% and below 59% of the total points

**GOAL:** The goal of this course is to facilitate learning about the animal kingdom so that students better understand and appreciate the inter-relationships between animals and their environment in order to promote the advancement of life sciences in society and to prepare students for a career in life sciences.

**GENERAL EDUCATION COMPETENCY/GOAL # 1:** Identifies the interrelationships between humans and their environment. LO 2: Demonstrates an understanding of the natural environment LO 3: Applies scientific information in everyday life

**RELATIONSHIP TO CAMPUS FOCUS:** This course addresses the campus focus by consistently utilizing the biological diversity of the region: the Turtle Mountain Forest, the prairie pothole region, the J. Clark Salyer National Wildlife Refuge, the International Peace Garden, and Lake Metigoshe. Using these as natural laboratories to strengthen the educational experience and continuously expanding academic and career programming, Dakota College at

Bottineau integrates technology to prepare students not only for the present but also to go beyond and improve the future.

**STUDENT E-MAIL POLICY:** Dakota College is increasingly dependent upon e-mail as an official form of communication. A student's campus assigned e-mail address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via campus e-mail rests with the student.

**CLASSROOM POLICIES:** All students will respect the classroom environment which will allow for maximum interaction between students and the professor.

**ONLINE POLICIES (WEB CAMERA AND MICROPHONE IS NEEDED FOR THIS CLASS):** Students and the professor will always keep their web camera on during class. Students may mute their microphone during lectures.

**LAB POLICIES:** Labs in this class are a privilege. Violation of school procedures regarding student conduct will not be tolerated. Many of the labs are all day field trips and you will be exempt from other classes. However, this does not exempt you from the work that is missed for those classes. All missed work from classes missed because of lab will be made up per arrangements with the other instructors. Students that violate this will miss out on future field trips. Labs are repeated around the same time each year.

**ACADEMIC INTEGRITY:** According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred. All students will do their own, original work on reports, laboratory assignments, and essays. Any student caught cheating on an exam or quiz will be reprimanded the first time. If it happens again, the student will drop the class.

**DISABILITIES AND SPECIAL NEEDS:** Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services. Please inform the professor within the first week of classes if any assistance is required due to disabilities or special needs.

**TITLE IX:** Dakota College at Bottineau's (DCB) faculty are committed to helping create a safe learning environment for all students and for the college as a whole. If you have experienced any form of gender or sex-based discrimination or harassment, including non-consensual sexual intercourse, sexual harassment, relationship violence, or stalking, know that help and support are available. DCB has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The College strongly encourages all students to report any such incidents to the College Title IX Coordinator. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if you tell a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can find a list of resources on the Title IX website. [www.dakotacollege.edu/student-life/safety/title-ix](http://www.dakotacollege.edu/student-life/safety/title-ix)

## TENTATIVE COURSE OUTLINE:

<b>Monday, Wednesday, and Friday Breakdown</b>			
	<p><b>M:</b> will always be a live instructed lecture via zoom from 3-3:50pm.  <b>W:</b> online work, no live class, but you will have a module/quiz/homework assignment to turn in by 3:50pm*.  <b>THR (lab):</b> in person lab in NSC  <b>F:</b> will always be a live instructed lecture via zoom from 3-3:50pm.</p>		<b>PLEASE READ CHAPTER # BEFORE WE HAVE LECTURE</b>
<b>Week</b>		<b>Readings</b>	<b>Topic</b>
1 Aug 23 <sup>rd</sup>	<p><b>M:</b> <u>No class</u>  <b>W (Aug 23th):</b> no class  <b>F:</b> <b>Introductions, syllabus review, begin Ch 1 lecture</b></p>	Ch 1	Ch 1. Biological principles and the science of zoology
2 Aug 29 <sup>th</sup>	<p><b>M:</b> Ch 2 and 3 lectures  <b>W:</b> online assignment, and quiz: *Quiz 1*  <b>F:</b> Ch 3 lecture</p>	Ch 2, and 3	Ch 2. The origin and chemistry of life Ch 3. Cells as units of life
3 Sept 5 <sup>th</sup>	<p><b>M:</b> <u>No Class, Labor Day:</u> Ch 4 lecture will be recorded and posted online for you to watch at your convenience.  <b>W:</b> online assignment, and quiz *Quiz 2*  <b>F:</b> <b>In person Exam 1 (Ch 1-4)</b></p>	Ch 4	Ch 4. Cellular metabolism
4 Sept 12 <sup>th</sup>	<p><b>M:</b> Ch 5 and 6 lectures  <b>W:</b> online assignment, and quiz *Quiz 3*  <b>F:</b> Ch 7 lecture</p>	Ch 5, 6, 7	Ch 5. Genetics Ch 6. Organic evolution Ch 7. The reproductive process
5 Sept 19 <sup>th</sup>	<p><b>M:</b> Ch 8 and 29 lectures  <b>W:</b> online assignment, and quiz *Quiz 4*  <b>F:</b> Ch 30 lecture</p>	Ch 8, 29, 30	Ch 8. Principles of development Ch 29. Support, protection and movement Ch 30. Homeostasis: osmotic regulation, excretion, and temperature regulation
6 Sept 26 <sup>th</sup>	<p><b>M:</b> Ch 31 and 32 lectures  <b>W:</b> online assignment, and quiz *Quiz 5*  <b>F:</b> Ch 33 lecture</p>	Ch 31, 32, 33	Ch 31. Homeostasis: internal fluids and respiration Ch 32. Digestion and nutrition Ch 33. Nervous coordination: nervous system, and sense organs
7 Oct 3 <sup>rd</sup>	<p><b>M:</b> Ch 34 and 35 lecture  <b>W:</b> online assignment, and quiz *Quiz 6*  <b>F:</b> Ch 36 lecture</p>	Ch 34, 35, 36	Ch 34. Chemical coordination: endocrine system Ch 35. immunity Ch 36. Animal behavior
8 Oct 10 <sup>th</sup>	<p><b>M:</b> <u>No class, Assessment Day on Oct 10<sup>th</sup>:</u> Ch 9 lecture will be recorded and posted online for you to watch at your own convenience  <b>W:</b> Ch 10 and 11 lectures will be recorded and posted online for you to watch at your own convenience  <b>F:</b> <b>In person Exam 2 (Ch 5-8, Ch 29-36)</b></p>	Ch 9, 10, 11	Ch 9. Architectural pattern of an animal Ch 10. Taxonomy and phylogeny of animal Ch 11. Unicellular eukaryotes: protozoan groups
9 Oct 17 <sup>th</sup>	<p><b>M:</b> Ch 12 and Ch 13 lectures  <b>W:</b> online assignment, and quiz *Quiz 7*  <b>F:</b> Ch 14 and 15 lectures</p>	Ch 12, 13, 14, 15	Ch 12. Sponges and placozoans Ch 13. Radiate animals Ch 14. Flatworms, mesozoans, and ribbon worms Ch 15. Gnathiferans and smaller lophotrochozoans
10 Oct 24 <sup>th</sup>	<p><b>M:</b> Ch 16 and 17 lectures  <b>W:</b> online assignment, and quiz *Quiz 8*  <b>F:</b> Ch 18 lecture</p>	Ch 16, 17, 18	Ch 16. Molluscs Ch 17. Annelids and allied taxa Ch 18. Smaller ecdysozoans
11 Oct 31 <sup>st</sup>	<p><b>M:</b> Ch 19 and Ch 20 lecture  <b>W:</b> online assignment, and quiz *Quiz 9*  <b>F:</b> <b>In person Exam 3 (Ch 9-18)</b></p>	Ch 19 Ch 20	Ch 19. Trilobites, chelicerates, and myriapods Ch 20. Crustaceans
12 Nov 7 <sup>th</sup>	<p><b>M:</b> Ch 21 and Ch 22 lectures  <b>W:</b> online assignment, and quiz *Quiz 10*</p>	Ch 21, 22, 23, 24	Ch 21. Hexapods Ch 22. Chaetognaths, echinoderms, and hemichordates Ch 23. Chordates

	<b>F:</b> <a href="#">No class, veterans' day on Nov 11<sup>th</sup></a> Ch 23 and 24 lectures will be recorded and posted online for you to watch at your own convenience		Ch 24. Fishes
13 Nov 14 <sup>th</sup>	<b>M:</b> Ch 25 and 26 lectures <b>W:</b> online assignment, and quiz * <b>Quiz 11</b> * <b>F:</b> Ch 27 and Ch 28 lectures	Ch 25, 26, 27, 28	Ch 25. Early tetrapods and modern amphibians Ch 26. Amniote origins and nonavian reptiles Ch 27. Birds Ch 28. Mammals
14 Nov 21 <sup>st</sup>	<b>M:</b> <a href="#">In person Exam 4 (Ch 19-28)</a> <b>W:</b> <a href="#">No class, thanksgiving break</a> <b>THR (lab):</b> <a href="#">No lab, thanksgiving break</a> <b>F:</b> <a href="#">No class, thanksgiving break</a>		
15 Nov 28 <sup>th</sup>	<b>M:</b> Ch 37 lecture <b>W:</b> online assignment, and quiz * <b>Quiz 12</b> * <b>F:</b> Ch 38 lecture	Ch 37 and 38	Ch 37. Animal distribution Ch 38. Animal ecology
16 Dec 5 <sup>th</sup>	<b>M:</b> <a href="#">Online Exam 5 (Ch 37-38)</a> <b>W:</b> Final Exam Review Online, Optional Assignment <b>F:</b> Final Exam Review via Zoom		No readings, prepare for final exam
17 Dec 12 <sup>th</sup>	<b>Final Exam TBD</b>		Cumulative exam, includes all covered chapters

**HOLIDAYS:** Class will **not** be held on: [Labor Day](#), [fall assessment day](#), [veteran's day](#), and [thanksgiving Thursday or Friday \(Nov 24<sup>th</sup> and 25<sup>th</sup>\)](#).