



BIOL 151: Introduction to Zoology

4 credits (3 lecture hours, 2 lab hours)

MWF 11-11:50am; T 9-10:50am or 11-12:50pm

Fall 2019 16 weeks (08/26–12/20/2019), on-campus face-to-face

Model Hall 330 for lecture and Cyril Moore 210 for lab

Instructor Information:

Professor: Dr. Alexandra Deufel

Office: Cyril Moore Science Center 215; Office Hours: whenever my office door is open

Email: alexandra.deufel@minotstateu.edu

Course Web Page: <http://msubiology.info/node/77>

Course Description from the Catalog: This introductory biology course is intended for science majors interested in animal biology. The course begins with an introduction to the scientific method and some select cellular functions. The course then introduces some basic concepts of genetics, which leads to an exploration of evolutionary theory. This is followed by an exploration of animal diversity, with a heavy emphasis on animal structure, function, and evolutionary relationships. The course ends with a brief exploration of animal ecology. Lab exercises involve some dissections of preserved animals.

Prerequisites: none

General Education: This course fulfills the **Foundational Content Area 2 (FC2)** of the Minot State University General Education Curriculum.

“Students will demonstrate knowledge of the physical and natural world and how to produce and apply that knowledge in a variety of settings.”

Students will demonstrate:

1. knowledge of the scientific content and principles of zoology.
2. proficiency in the application of the scientific method.
3. ability to use scientific terminology and quantitative reasoning appropriately.
4. understanding of the process of science as an intellectual pursuit.

IMPORTANT: Students often think that general education courses are supposed to be easy and require little work. This is not true. This course is a science course and will require quite a bit of memorizing.

First Year Experience: Do you &!*%\$#@ love science? (this applies to only some of you!)

This course is part of a two-course First Year Experience (FYE).

The most exciting phrase to hear in science, the one that heralds new discoveries, is not 'Eureka!' but 'That's funny...!' (Isaac Asimov) How do scientists *really* know what they know?

Why are scientific theories not *just a theory*? Why do scientists claim that constantly updating ideas is a *good* thing? What are the ethical and philosophical implications of science? Explore these questions and more. Discover the opportunities to practice real science with biology faculty members, get to know your fellow biology majors, and explore strategies for successful transition to the university community as you embark on your educational journey.

UNIV 110: First-Year Seminar (2 cr.) (RC, PSR2) M 12:00-1:40pm Paul Lepp

BIOL 151: Intro to Zoology (4 cr.) (FC) MWF 11:00-11:50am Alexandra Deufel

BIOL 151 Lab: T 11:00 - 11:50 am

If Applicable -see next page-

CHEM 121: General Chemistry I (5 cr.) (FC, CCS1, CCS4) MWF 2:00–2:50pm Robert Crackel
CHEM 121 L: TH 8:00 – 10:50 am
CHEM 121 R: T 10:00 – 10:50 am

Drop Policy (FYE only): This course, as part of a FYE, is linked to other courses, which must all be taken together. If you decide to drop one of these classes, you will be required to drop all of them. You will need to obtain permission from your UNIV 110 instructor and will be required to meet with your instructors before obtaining this permission. Dropping these courses could have significant impact on your student record and financial aid. It is also recommended, prior to dropping, that you consult with the financial aid office.

Required Course Materials:

Book: Campbell Biology, 11th Edition, by Reece, Urry, Cain, Wasserman, Minorsky & Jackson, Pearson/Benjamin Cummings.

This book is required, reading it will help you pass the course. If you are a Biology major, definitely buy this newest edition and keep it for the rest of your career as a biologist. The book is a great reference. Other majors who are taking the course as a gen ed can probably make do with an older edition.

Student Learning Outcomes: This course contributes to the following Student Learning Outcome: Freshmen and sophomores will memorize, recall, and describe biological processes and concepts

Course Objectives: After successful completion of this course, students will.....

1. understand the scientific method and recognize pseudoscience
2. know the basic parts and function of animal cells
3. understand Mendelian genetics and inheritance
4. understand the various mechanisms of evolution
5. be able to recognize and place on an evolutionary family tree a large diversity of animals
6. understand some of the ways in which animals interact with each other and with their environment

Grading: The lecture and laboratory parts of the course each contribute to your final grade in the course. The lecture exams will be worth 60% of your final grade, lab work will account for 40%. **There will be no “extra credit” projects for students who are unhappy about their grade.** Track your progress in the course, so you are not coming to me during the last week asking me “what do I need” to pass, at which point it is too late to turn things around.

Grading Scale:		
90 – 100%	A	excellent
80 – 89%	B	good
70 – 79%	C	average
60 – 69%	D	poor
0 – 59%	F	fail

There will be 3 lecture exams (13% each, 50 multiple-choice questions) and 1 final (21%, 75 multiple-choice questions). There will be 10 labs, each worth 3%, and a lab final worth 10%.

How to do well in this course:

Note taking: Note taking is somewhat of an art. You have to *pay attention* to what I say in lecture and *write down the gist of it*. Don't try to write down every word I say, that will be impossible. If I go too fast, ask me to slow down. There is evidence that taking notes by hand makes you retain the information better than taking notes with a laptop (reference can be found

on the course website) Because of copyright issues, I **do not** generally post my PowerPoint lecture slides.

Study habits: This course involves understanding some complex processes and requires memorization of many 'strange' (Latin, Greek) words. **Getting behind is deadly.** Course material will accumulate quickly. You should plan to *spend at least 6-8 hours per week* outside of class time reading the book, reviewing your notes, and practicing recalling the information to yourself as well as to your study buddies. Simply going to class won't be enough for most students. **YOU have to learn the material;** I provide the information to you in the simplest form possible, but can't make you absorb it. Most students find reading the textbook, paying careful attention to figures shown in class, re-writing of notes, and discussions with peers to be useful strategies for success. If you are struggling, come to me for help as early as possible during the semester.

Tutoring: Tutoring is usually available for this class. Go to the CETL office in Old Main to inquire about hours.

Tentative Course Outline, including exams:

Zoology is the study of Animals!

This course will give you some basic understanding of animal form, function, ecology, diversity, and evolution. Our study of animals will cover the microscopic (e.g. how animal cells divide to grow and reproduce) to the gigantic (e.g. how whole animals and animal populations interact).

Week	Topic	Chapters
<i>The Scientific Method & Animals at the Cellular Level</i>		
Aug 26-30	Introduction, Science and the Scientific Method	1
Sep 02-06	Labor Day , Scientific Method; Pseudoscience	1
Sep 09-13	Biomolecules, The Animal Cell	5, 6
Sep 16-20	Membrane Structure and Function	7
Lecture Exam 1 (13% of course) after membrane is finished		
Sep 23-27	Assessment Day Sept 23 , Mitosis & Meiosis	12, 13
Sept 30-Oct 04	Mendelian Genetics	14
<i>Evolution, Phylogeny, and Diversity</i>		
Oct 07-11	Evolution	22, 23
Oct 14-18	Evolution and Speciation	24
Lecture Exam 2 (13% of course) after evolution is finished		
Oct 21-25	Phylogeny and the Tree of Life	26
Oct 28-Nov 01	Single-celled organisms, Porifera	28, 32
Nov 04-08	Cnidaria, Platyhelm., Annelida, Mollusca	33
Nov 11-15	Veterans Day , Arthropoda	33
Lecture Exam 3 (13% of course) after arthropods are finished		

Nov 18-22	Echinodermata, Chordata	33, 34
Nov 25-29	Chordata - Thanksgiving Break Nov 27-29	34
	<i>Population Ecology</i>	
Dec 02-06	Populations	53
Dec 09-13	Communities	54
Dec 19	Final Exam – Comprehensive! (21% of course)	
	10-11:50am in lecture room	

Laboratory Schedule

Unlike for lecture, where everyone meets in the same room three times a week, you will split up into groups for your lab experiences. You are expected to attend the lab section that you are signed up for. Throughout the semester, I will post lab handouts on the course webpage. Please print them out before each lab, read them, and do any work that has to be done before lab. Then, bring the handouts with you to lab.

Lab #	Date	Topic
	Aug 27	No Labs
	Sep 03	No Labs
1	Sep 10	Scientific Method
2	Sep 17	Osmosis
3	Sep 24	Mitosis and Meiosis
	Oct 01	No Labs – take a break ☺
4	Oct 08	Genetics
5	Oct 15	Evolution Game
6	Oct 22	Phylogenetic Systematics
7	Oct 29	Phylogenetic Systematics
	Nov 05	No Labs – take a break ☺
8	Nov 12	Cnidaria, Annelida
9	Nov 19	Mollusca, Arthropoda
10	Nov 26	Echinodermata, Chordata
	Dec 03	No labs – Review animals for the final!!
Dec 10		Lab Final – on labs 6-10 material (100 Points = 10%)

Policies:

Missing exams and lab work: You have to tell me well *before* any exam if you can't attend. No-shows because of medical or family emergencies have to call me as soon as possible to make other arrangements and be prepared to show documentation from a doctor or other official. You do not automatically have a right for a makeup exam. Giving makeups is up to my discretion.

If you anticipate missing a lab, you will need to make arrangements with me to possibly attend another lab section. Makeup labs are given only under special circumstances or if you are missing lab because of a university-sanctioned event. I will decide on a case-by-case basis if I will accept late lab reports.

Attendance: I will take attendance during the first few days of classes to support an effort by the university to identify students who may have registered but do not actually intend to take the course. There is no credit for attendance; attendance is simply expected throughout the course of the semester. If you are not interested in the class and don't want to be there, don't come and disrupt the lecture. Lecture time is not for socializing. It may be difficult to pass the course without attending. Also, you are responsible for all information given in class, including possible changes in exam dates, labs, or cancellations.

University sanctioned events:

Minot State University has a commitment to students who represent the University in official capacities. University-sanctioned activities include events that are required or encouraged by a class, program, club, or athletic team. When a student has a scheduled absence due to a university-sanctioned activity, it is the student's responsibility to communicate with the faculty member prior to his or her absence. You will have to contact me **before** your scheduled absence to make arrangements for any missed labs or exams.

Cheating/Academic Honesty: The *minimum* penalty for any kind of cheating on the exams is a grade of 0% (F) on that exam. This is difficult to recover from. Examples of cheating include, but are not limited to, copying from another student during an exam, altering one's exam after grading for the purpose of enhancing one's grade, use of any material or device not approved by the instructor during an exam. **Texting or cell phone use of any kind during an exam will result in a 0% on that exam.** I also expect you to write your lab reports in your own words. While you are welcome and encouraged to work together in lab, you must write your report in your own words. If I receive lab reports with identical wording, I will deduct 50% of the grade for that report from all students with the same wording, regardless of who copied from whom.

Disability Statement:

In coordination with the Access Services, reasonable accommodations will be provided for qualified students with disabilities (LD, Orthopedic, Hearing, Visual, Speech, Psychological, ADD/ADHD, Health Related, TBI, PTSD and Other). Please meet with the instructor during the first week of class to make arrangements. Accommodations and alternative format print materials (large print, audio, disk or Braille) are available through the Access Services, in person, by phone 701-858-3371 or by e-mail at evelyn.klimpel@minotstateu.edu

Non-discrimination Statement:

Minot State University subscribes to the principles and laws of the state of North Dakota and the federal government pertaining to civil rights and equal opportunity, including Title IX of the 1972 Education Amendments. Minot State University policy prohibits discrimination on the basis of race, gender, religion, age, color, creed, national or ethnic origin, marital status, sexual orientation, gender identity, or disability in the recruitment and admission of students and the

employment of faculty, staff, and students, and in the operation of all college programs, activities, and services. Evidence of practices which are inconsistent with this policy should be reported using the Student Complaint and Anti-Discrimination Form located here: <https://form.iotform.com/72996849416981>. For the complete non-discrimination statement, visit [here](#).

Title IX Statement:

In the event that you choose to write or speak about having survived sexualized violence, including non-consensual sexual intercourse, non-consensual sexual contact, dating violence, domestic violence, or stalking, Minot State University (MSU) policy requires that, as your instructor, I share this information with the Title IX office. The Title IX coordinator will contact you to let you know about your options, accommodations and support services at MSU.

If you do not wish the Title IX office notified, instead of disclosing this information to your instructor, you can speak confidentially with individuals on campus and in the community. They can connect you with support services and help explore your options now, or in the future.

Contact Information:

Lisa Dooley | Title IX coordinator
Minot State University | Memorial 412
500 University Ave W | Minot, ND 58707
Ph: 701.858.3447 | lisa.dooley@NDUS.edu

If you want to learn more about options on your own, you can visit <http://www.minotstateu.edu/keepusafe/> or <http://www.minotstateu.edu/title9/>