



BIOL 335: Comparative Vertebrate Anatomy

4 credits (3 lecture hours, 3 lab hours)

MWF 09-09:50am; TH 11:00am - 01:50pm

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

Cyril Moore 213 for lecture, 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/46>

Course Description from the Catalog: A study of the structure of vertebrates, with a focus on revealing the evolutionary relationships of major vertebrate groups. The laboratories will involve detailed examination and dissection of a broad range of vertebrate animals, including lampreys, sharks, amphibians, reptiles, and cats.

Prerequisite: BIOL 151 Introduction to Zoology

General Education: This course is not part of the general education curriculum

Required Course Materials:

Book: Ken Kardong, "Vertebrates – Comparative Anatomy, Function, Evolution", 8th ed. McGraw Hill

Lab Manual: Kardong & Zalisko, "Comparative Vertebrate Anatomy – a lab dissection guide", 7th ed.

Supplies: Bring a set of colored pencils or pens to every lecture. I do a lot of anatomical drawings on the board that you are expected to copy and reproduce on exams. You may want to keep an old shirt in the lab so you can cover up during dissections. You WILL get smelly stuff on you during lab. If you have long hair, you should have something on hand to tie it up. It is not very appealing to have to constantly tuck your hair back with hands that just came from inside a dead shark.

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

1. be able to interpret phylogenetic trees
2. be able to draw the most current phylogenetic tree of vertebrate animals
3. know the names and locations of many anatomical parts of vertebrates
4. understand how comparing anatomy informs our understanding of evolution

Grading:

Lecture and lab exams (10% each)	40%
Lecture and lab finals (25% each)	50%
Participation in class and discussions of assigned readings	5%
Effort in Lab (attendance, completeness and quality of dissections)	5%

Grading scale:

A	90+
B	75+
C	60+
D	50+
F	below 50%

How to do well in this course:

You need to work on this course regularly. **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 reviewing your notes, and going to lab to review dissections. Simply attending class and lab won't be enough for most students. **YOU have to learn the material**, and this is best done by **lots of repetition.**

Tentative Course Outline, including exams:

<u>Week</u>	<u>Topic</u>	<u>Chapters</u>
Aug 26-30	Introduction, Phylogeny	1
Sep 02-06	Labor Day , Chordates, Vertebrate Origins and Diversity	2, 3
Sep 09-13	Integument	6
Sep 16-20	Skull	7
Sep 23-27	Assessment Day Sept 23 , Skull	7
Sept 30-Oct 04	Rest of Skeleton	8, 9
Oct 07-11	Skeleton <u>Exam 1 this week</u>	8, 9
Oct 14-18	Muscles	10
Oct 21-25	Digestive System	13
Oct 28-Nov 01	Respiratory System	11
Nov 04-08	Circulatory System	12
Nov 11-15	Veterans Day , Circulatory System	12
Nov 18-22	Circulatory System <u>Exam 2 this week</u>	12
Nov 25-29	Urogenital System Thanksgiving Break Nov 27-29	14
Dec 02-06	Urogenital System	14
Dec 09-13	Catchup Time	54
Dec 19	Final Exam – Comprehensive! 08-10:50am in lecture room	

Laboratory Schedule

Date	Topic	Chapter
Aug 29	Intro, Protochordates, Agnathans	1, 2, 3
Sep 05	Integument, Cranial Skeleton	4, 5
Sep 12	Quizlet , Cranial + Postcranial Skeleton	5
Sep 19	Muscles (Shark)	6
Sep 26	Lab Exam 1 , Skinning the cat	6
Oct 03	Muscles (<i>Necturus</i> , Mammal)	6
Oct 10	Muscles (Mammal)	6
Oct 17	Muscles (Mammal)	6
Oct 24	Muscles (Mammal)	6
Oct 31	Lab Exam 2	
Nov 07	Digestive System	7
Nov 14	Circulatory and Respiratory System	8
Nov 21	Circulatory and Respiratory System	8
Nov 28	Thanksgiving	
Dec 05	Urogenital	9
Dec 12	Lab Final	

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.jotform.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/>