

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

Instructor/TA:

Sushant Potdar (he/him/his)

Email: sdpotdar@uark.edu

Chance Powell (he/him/his)

e-mail: cap051@uark.edu

Corequisite: BIOL 1603: Principles of Zoology

Lab Location: Champions Hall (CHPN) 208

Goals: To increase students' understanding of animal anatomy, anatomical function, taxonomic classification, evolution, and life history through detailed examination of diverse specimens from the Metazoa (animal kingdom).

Required text:

Hickman, C.P, L.B. Kats, S.L. Keen, D.J. Eisenhour 2020 *Laboratory Studies in Integrated Principles of Zoology*, 19th Edition. McGraw Hill Publishers, New York.

* The out-of-print 16th edition has similar material. If you have a copy of the 16th edition, ask your instructor for corresponding page numbers to read.

Lab Specimen Fee: All students must pay the specimen fee. You will pay this fee at the student bookstore on Garland and bring or email/slack message the receipt to your lab instructor no later than October 1st.

Interactive SLACK page for zoology lab & lecture (<https://principlesofz-ipn8751.slack.com>)

This SLACK page will allow you to view videos necessary for the lab, ask questions outside of in-person class, and start discussions. There will be discussion groups for each lab.

Unexpected Events Considerations:

Since Spring 2020, we have experienced unexpected circumstances due to the pandemic which has shaped the way we teach this lab over the last 3 years. While our labs this semester will be in person, we understand that there could be unexpected circumstances that are out of your hands, for which you may need to miss the lab. If this is the case, please do not hesitate to communicate that with your TA. We have contingency plans for you to make up labs that you may miss due to these unexpected events. Please let us know if circumstances are preventing you from learning or participating so we can help you and please do not hesitate to reach out to us via slack or email.

Attendance Policy:

Attendance is mandatory at all lab sessions. If you are unable to attend an in-person lab due to illness or any other university sanctioned absence, you must let your TA know so that we can work with you to make up for the missed lab. Please do not attend lab if you are ill, even if the symptoms are not those of Covid-19. Students with emergencies or illness should contact their instructor within 24 hours of missing the lab. Excused absences are defined by UA as:

- Organized UA functions
- Serious personal injury or illness
- Serious injury, illness, or death of a direct family member
- Other emergencies

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

You are expected to be in the lab for the full duration of the lab session. Do not schedule events to overlap with the lab.

Participation policy

Participation points will be earned by answering your instructor's questions on specimens and showing your sketchbook to your instructor before leaving at the end of each lab. **If you leave the lab before talking to your instructor you will not earn participation points for that lab.** If you are doing a makeup lab due to excused absence, participation points will be earned by turning in the rough draft of your sketch notebook and answering your instructors questions for that lab on a video. Talk to your TA for more information on the makeup labs.

You will lose participation points if you do not come prepared for class with the necessary materials (see end of syllabus for list).

Appropriate lab dress:

- **Your legs must be covered at all times.** Examples of appropriate lab attire include long pants, long skirts, knee-length skirts with leggings, and kilts with tall socks. Clothing must be in good condition (*i.e.*, no holes). Crop tops will not be allowed in the laboratory. You will not be allowed to enter the lab if dressed improperly.
- Shoes must be **close-toed**.
- Lab coats are available from lab coat dispensers near CHPN 207.
- Please purchase lab goggles (*i.e.* VisorGogs) and gloves (latex or nitrile) from the bookstore, and bring these items to the lab every week. Dissecting tools will be provided.
- Long hair should be secured, and short hair should be kept out of one's eyes.
- If you require corrective lenses, you are encouraged to wear glasses instead of contacts.
- **While not required, we encourage you to wear masks if you are feeling ill.**

Animals in this course:

Lab exercises will involve the study and dissection of preserved animal specimens as well as working with live animals. Working with these animals is a course requirement, and participation in ALL lab sessions and activities is required. All preserved animal specimens were sacrificed humanely. Please treat all animal specimens (both those used for dissections and the wet and dry specimens in our collection) with respect.

Late Work policy: Late work is accepted. 10% is deducted for every day an assignment is late, up to 9 days.

Class Conduct:

- Please silence your phone. The use of cell phones for texting, talking, or social media will not be tolerated. However, **the use of phones to photograph lab specimens is encouraged!** However, for safety reasons, you **MUST take off your gloves** to use your phone.
- Absolutely no food or drink will be allowed in the lab.
- Work-space, microscope, and tools must be cleaned thoroughly after each lab.
- Sketchbook must be checked by the instructor before leaving the lab.

Academic Integrity:

As a core part of its mission, the University of Arkansas provides students with the opportunity to further their educational goals through programs of study and research in an environment that promotes freedom of inquiry and academic responsibility. Accomplishing this mission is only possible when intellectual honesty and individual integrity prevail.

Each University of Arkansas student is required to be familiar with and abide by the University's 'Academic

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

Integrity Policy' which may be found at <http://honesty.uark.edu/policy>. Students with questions about how these policies apply to a particular course or assignment should immediately contact their instructor.

It is your responsibility to understand the UA policy regarding acts of Academic Integrity described as student behavior that causes the integrity of the UA educational process to be compromised. Cheating on exams, collaboration with others on assignments when instructed to work independently, and plagiarism (i.e. submitting, as one's own original work, the ideas, words, or works of others) are serious offenses not tolerated by the UA administration or community. Incidences of plagiarism will be reported to the academic integrity monitor, and will be subject to sanctions outlined by the university: <http://honesty.uark.edu/sanction-rubric/>.

With the development of AI programs such as Chat GPT, it must be acknowledged that the use of such programs is strictly prohibited and is in violation of the UA Academic Integrity policy.

Sketch Notebook & Writing Assignments:

Each week you will be asked to make sketches of lab specimens, and take detailed notes on your observations. Students who are completing the makeup lab may be asked to complete alternate activities, such as label images found online, in addition to the sketchbooks and answering participation point questions. Two writing exercises will also be assigned during the semester. Instructions and requirements for these assignments will be provided in additional documents.

Lab Quizzes:

There will be ten lab quizzes administered weekly at the start of the lab. Quizzes will happen during the first ten minutes of the lab. These quizzes will test your knowledge of material to be covered in that week's lab. They will cover information contained in the lab manual handouts, and the preceding lab.

Please prepare by reading the assigned lab handout and lab manual chapters prior to attending lab. Textbook chapters are listed as a reference, but you will *not* be tested on material from the textbook in the lab.

Exams:

There will be two exams given in practical format (i.e., open-ended questions about lab specimens, identifying names and functions of anatomical structures, and taxonomic identification). Exam dates are provided on the course schedule. **Open Labs**, where students can revisit specimens and ask questions, will be held prior to each exam.

Grade composition: 500 points

Weekly Quizzes: 50 points (5 points each)

Participation: 77 points

Writing Assignment: 70 points

Sketch Notebook: 110 points

Midterm Exam: 100 points

Final Exam: 100 points

Grading Scale

450 – 500 A

400 – 449 B

350 – 399 C

300 – 349 D

≤ 299 F

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

The total points earned by a student will determine his or her final letter grade. Grades will not be rounded up at the request of a student (note that there are 7 extra points built into the grading system). It is the student's responsibility to earn enough points to achieve his or her desired grade.

Emergency Procedure:

- Instructions for specific emergencies, such as severe weather, active shooter, or fire, can be found at emergency.uark.edu. However, there are some simple things you should do in the event an emergency occurs during our class.
- Always follow the directions of the instructor or emergency personnel
- If told to evacuate, do so immediately.
- If told to shelter-in-place, find a room, in the center of the building with no windows, on the lower level of the building.
- If told to lockdown, lock and barricade the door. Turn off the lights and wait for the police to arrive.

Severe Weather (Tornado Warning):

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in the basement or interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

Violence / Active Shooter (CADD):

- **CALL**- 9-1-1
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desk, chairs, bookcases or any items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

Inclement Weather Policy:

Labs will be canceled if the University closes due to bad weather.

Statement Regarding Note Selling and Distributing:

There are companies that will try to lure you into selling the notes you take in this class. Don't let these companies take advantage of you. Selling notes on my course material to any commercial service I will consider a violation of my intellectual property rights and/or copyright law as well as a violation of the U of A's academic integrity policy. Continued enrollment in this class signifies intent to abide by the policy. Any violation will be reported to the Office of Academic Initiatives and Integrity.

Course Schedule:

Date	Topic	Chapters/Pages	Lecture Pages
Aug 23-25	Zoology lab will not meet		

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

Aug 30-Sept 1	Lab 1: Intro to Microscopy, Cell Structure, Mitosis & Meiosis	1, 2 , 3-6, 8-9, 14, 16-20, 25-32	36-54, 137-156
Sep 6-8	Lab 2: Development, Tissue Structure and Function Turn in sketch notebooks at end of lab	3, 4 , 36-40, 47-58	158-169, 187-199
Sep 13-15	Lab 3: Ctenophora, Porifera, Cnidaria, Taxonomy (no dissection)	6, 8, 9 , 77-78, 125-131, 135-148	253-296
Sep 20-22	Lab 4: Rotifera, Mollusca (mussel & squid dissection) Discuss Writing Assignment	11, 12 , 181, 185-192, 194, 196-201	320-323, 342-371
Sep 27-29	Lab 5: Platyhelminthes, Annelida (earthworm dissection) Frog and pig specimen receipts due	10, 13 , 153-160, 162-165, 203-210, 217-218	301-317, 373-393
Oct 4-6	Exam 1, sketch notebooks due		
Oct 11-13	Lab 6: Chelicerata, Arthropoda (crayfish dissection)	14, 15 , 221-238	413-452
Oct 18-20	Lab 7: Arthropoda & Nematoda (grasshopper dissection & dancing cockroach leg demonstration)	11, 16 , 173-174, 179-180, 243-247, 253-256	395-404, 454-481
Oct 25-27	Lab 8: Echinodermata (echinoderm dissections) Writing assignment rough draft due	17 , 267-281	484-502
Nov 1-3	Lab 9: Chordata (perch dissection)	18, 19 , 283-290, 293-294, 298, 303-304, 306-308	503-552
Nov 8-10	Lab 10: Chordata (frog dissection)	20, 21 , 315, 322-329, 339	555-594

PRINCIPLES OF ZOOLOGY LAB-FALL 2023

Nov 15-17	Lab 11: Chordata (fetal pig dissection) Writing assignment final draft due	22, 23 , 345-346, 351, 359-364, 367, 369-373, 375-376	596-651
Nov 22-24	Thanksgiving Break		
Nov 29-Dec 1	Exam 2, sketch notebooks due		
Dec 6-8	Zoology lab will not meet (subject to change) *		

***Please note:** In the event of inclement weather, weeks marked as “Zoology lab will not meet (subject to change)” will be utilized to reschedule canceled labs.

CHECKLIST OF REQUIRED SUPPLIES FOR EVERY LAB MEETING

1. Lab manual
2. Blank paper to draw on
3. Small ruler/straight edge
3. Safety goggles
4. Gloves
5. Closed-toe shoes
6. Appropriate lab attire
7. Paper copy of handout (to limit physical contact between TAs and students, please print at home/College library/Student Union!) Please contact your TA if you do not have a printer.