ZOOLOGY, BIO214-01
FALL 2021

Class Time and Location: **MW** 12:30 –1:45 PM, Lab: **W** 10:00AM-12:00 PM, Spencer 229
Instructor: Krishna Nath, Ph.D., M.Sc., B.Ed.
Office and Contact Information: Room # Spencer 238; Phone 394-7622 ext 1336
Email: knath@uarichmountain.edu
Office Hours: Posted on the office door

MASK POLICY: As per the direction of the University of Arkansas Board of Trustees, all students are required to wear a proper face covering that completely covers the nose and mouth while on campus and in class. Masks with holes or masks that do not completely cover nose and mouth are not acceptable. Any student that does not have a proper mask will leave class and be referred to the Vice Chancellor for Student Affairs for possible disciplinary action.

FOOD & DRINK: Food and drinks, including water are not allowed in the classroom at any time.

RESOURCES:

Lecture Text: *Zoology, 10th edition*; by Miller and Harley; 2020; ISBN 978-0-07-783727-3
Laboratory Manual: *Exercises for the Zoology Laboratory, 3rd edition*; by David Smith; 2013; ISBN 9781617310621

COURSE DESCRIPTION: Introduction to zoological principles relating to cells, organ systems, development, genetics, ecology, evolution, and animal phyla. Course designed for biology majors, but may also be taken for general education. Laboratory is an integral part of this course and participation is required for successful completion of this course. **ACTS course # BIOL 1054**

PROGRAM OUTCOME and Rationale: The knowledge and critical thinking skills acquired in the general education component enable students to analyze problems, to arrive at intelligent conclusions, and to make reasoned choices in their professional and personal lives. My goal is that each student will complete this course with an appreciation for the unity and diversity life on earth and be an intelligent consumer of biological resources.

COURSE OBJECTIVES: Upon successful completion of Zoology, the student should be able to:

- Describe the relationship that exists between zoology and the other biological sciences.
- Identify the major zoological disciplines and describe the particular aspect of zoology with which each is concerned.
- Discuss the history of man's thinking concerning organic evolution. Such discussion should include:

1. Pre-Darwinian concepts
2. Darwinism--the theory of natural selection
3. Neo-Darwinism--the modern synthesis.
4. Give evidence from the realms of biogeography, paleontology, comparative anatomy, comparative embryology, and molecular genetics to support the theory of evolution.

- Define species and describe the various processes of speciation.

- Understand and recognize how embryonic development differs among animal phyla.
  - Describe the basic characteristics of phylogeny, taxonomy, form, function, and natural history associated with the various phyla including:
    1. Protozoan Groups
    2. Porifera
    3. Cnidaria
    4. Platyhelminthes
    5. Mollusca
    6. Annelida
    7. Nematoda
    8. Arthropoda
    9. Echinodermata
    10. Chordata

LECTURE AND EXAM SCHEDULE*

Topic	Unit	Chapter
Zoology	1	An Evolutionary and Ecological Perspective
Cells	2	Cells, Tissues, Organs, and Organ Systems
	3	Cell Division and Inheritance
Test 1	**9/13**	**Prepare Chapter 1-3**
Evolution	4	Evolution: History and Evidence
Evolution	5	Evolution: Gene frequencies
Ecology	6	Ecology: Preserving the Animal Kingdom
Test 2	**10/11**	**Prepare Chapter 4-6**
Classification	7	Animal Classification, Phylogeny, and Organization
Protists	8	Animal-Like Protists
Sponges and Radiates	9	Multicellular and Tissue Levels of Organization
Test 3	**11/11**	**Prepare Chapter 7-9**
Molluscs	11	Molluscan Success
Annelids	12	Annelida: The Metameric body Plan
Arthropods	14	Blueprint for Success
Hemichordates and Chordates	17	Hemichordata and Invertebrate Chordates
Test 4	**12/1**	
Final Exam	**12/6**	**Prepare for final exam 1-9**

TENTATIVE LAB SCHEDULE

Date	Topic	Chapter
Week 1	**Syllabus, Fundamental Laboratory Skills/ Microscopes**	**1**
Week 2	**Cells and Tissues**	**2**
Week 3	**Animal Classification and Protists**	**4**
Week 4	**The Sponges**	**5**
Week 5	**The Radiate Animals**	**6**
Week 6	**The Flatworms**	**7**
Week 7	**The Molluscs**	**8**
Week 8	**The Annelids vs.**	**9**
	The Nematodes	**10**
	Lab Report	
Week 9	**The Arthropods**	**11**
Week 10	**The Echinoderms**	**12**
Week 11	**Phylum Chordata**	**13**
Week 12	**The Fishes and Class Amphibia**	**14, 15**
Week 13	**Nonavian Reptiles**	**16**
Week 14	**The Birds and The Mammals; revision**	**17**
Week 15-16	***Final Exam and Lab reports***	

Disclaimer: The information contained in this syllabus is as accurate as possible, but may be subject to change with reasonable advance notice. The schedule and content of lectures and assignments may be changed at the discretion of the instructor upon oral notification in class. Changes may involve additions, deletions, substitutions, or changes in sequence or due date.

UARM CREDIT HOUR CALCULATOR: For every course credit hour, you should expect to spend at least three clock hours per week of concentrated attention on course-related work, including but not limited to time attending class, as well as out-of-class time spent reading, reviewing, organizing notes, preparing for upcoming quizzes/exams, problem solving, developing and completing homework, and other activities that enhance learning. For a three hour course, a typical student should expect to spend at least nine hours per week dedicated to the course. This includes the time spent in class.

COURSE EVALUATION: Evaluation of student performance in the course will be based on the following factors:

1.	Four Tests 1-4:	4 @ 100 points each	= 400 points (Test 2 is Mid-term Exam.
2.	Quizzes and assignment	10 @ 10 points each	= 100 points
3.	Final Exam:	1 @ 100 points	= 100 points
4.	Lab activities:	11 @ 10 points each	= 100 points
5.	Techniques on Zoology:	1 @ 20 points	= 20 points
6.	One Formal Lab Report:	1 @ 20 points	= 30 points
7.	Lab Final Exam:	1 @ 50 points	= 50 points
	Total points		**= 800**

GRADING SCALE:

A = 100 - 90%
B = 89 - 80%
C = 79 - 70%
D = 69 - 60%
F = 59% or lower

LABORATORY QUIZZES – Approximately 10 quizzes will be given throughout the semester during laboratory periods. The quizzes will consist of questions related to laboratory exercises performed, assigned readings, and related lecture information. These quizzes will be administered at the end of class, most often orally. In some cases, participation in dissections, lab report, or a completed exercise from the manual will be submitted in lieu of a quiz.

LAB PRACTICAL – Exams in the laboratory will test your knowledge of the material covered in lab. This exam will test your knowledge of classification of organisms (Phylum, Class, and Order,) identification of anatomical structures, and function of those structures. A crib sheet or notes will not be permitted.

Disability Policy: It is the policy of UARM to accommodate students with disabilities, pursuant to state and federal law. Any student with a disability who needs accommodations should contact the Vice President for Student Affairs Office, 394-7622 ext.1400.

Arkansas Clean Air Act: In compliance with the Arkansas Clean Air Act, UARM is a smoke and tobacco free facility. Students are to refrain from the use of all tobacco products while on campus.

Student Misconduct: Students committing misconduct are subject to disciplinary sanction(s) and or restrictions. Misconduct or prohibited behavior includes, but is not limited to endangerment, harassment, disruption, sexual misconduct, dishonesty, illegal drugs and/or alcohol, fire or safety issues, gambling, property violations, computer violations or other violations as listed in detail in the UARM catalog.

UARM Mission: University of Arkansas Rich Mountain exists to provide all residents of the Ouachita Mountain Region with exemplary educational and enrichment opportunities to improve the quality of life and standard of living.

Campus Security: UA Rich Mountain strives to provide a safe learning environment; therefore, students who know of any security risk are asked to contact a college official. For more information follow this link and look under Health and Safety: http://www.uarichmountain.edu/at-a-glance/disclosures

UA Rich Mountain Mission: UA Rich Mountain provides transformative education to all learners.

Credit Hour Requirement Calculator

Course Information			
Department, Course Number		Biological Science	BIO214
Course Title		Zoology	I
Credit Hours	4		
Mode of Delivery	Traditional		Lecture/Lab
Weeks in Part of Term	15		
Level of Reading Material	Advanced/Scientific/Technical (2)		2
Reading Level of Students	Average Student (2)		2
Average Pages per Hour	11		

Enter either week or term, not both

Contact Hours		**Hours/Week**	**Hours/Term**	**Total Hours**
Lecture/Recitation			45	45
Lab Contact Hours			30	30
	Pages Asg'd	**Hours/Week**	**Hours/Term**	
Syllabus Items				
Reading Lecture Material	400		18.9	36.4
Chapter Points Homework			20	20
Reading Lab Assignment	70		10.8	6.4
Preparing for Lab Practical			3	3
Reviewing for Exams			8	8
				0
Total Hours				150.8
Required Hours				141
Difference				Ok + 0.8