

9/13/2022 DATE



REQUIRED COURSE



ELECTIVE COURSE

MSD

DIVISION



NEW COURSE



REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	BIO-212	TITLE: (30 Characters Max)		Vertebrate Zoology							
SEM CR HRS:	3	Lecture:	2	Lab:	2	SOE/ Internship:		0	ECH:	4	
Course Level:	<input type="checkbox"/> Gen Ed / IAI <input checked="" type="checkbox"/> Baccalaureate /Non-IAI		<input type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		Clinical Practicum:	0	SOE/ Internship:		0	SOE ECH:	0
COURSE PCS #	11 - 26.0701		IAI Code				Contact Hours (Minutes Per Week)				
Repeatable (Y/N):	N	Pass/Fail (Y/N):	N	Variable Credit (Y/N):	N	Min:	Max:	16 Wks	200	8 wks	400
Prerequisites:	BIO-100 & BIO-116										
Catalog Description: (40 Word Limit)	Laboratory and field course providing an in-depth study of North American vertebrates with emphasis on Illinois species. Includes taxonomy, distribution, habitats, adaptation, and ecological and human relevance.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Non-Clinical Internship/ SOE
Unit I- Classification, Characteristics of Vertebrates, Population Ecology	4	2		
Unit II- The Fishes	5	6		
Unit III- The Amphibians	5	4		
Unit IV- The Reptiles	5	6		
Unit V- The Crocodilians and Birds	6	6		
Unit VI- The Mammals	5	6		
TOTAL	30	30	0	0

EVALUATION

QUIZZES <input checked="" type="checkbox"/>	EXAMS <input checked="" type="checkbox"/>	ORAL PRES <input type="checkbox"/>	PAPERS <input checked="" type="checkbox"/>
LAB WORK <input checked="" type="checkbox"/>	PROJECTS <input type="checkbox"/>	COMP FINAL <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>

COURSE MATERIALS

TITLE:	Vertebrate Life	Also various taxonomic keys & field guides
AUTHOR:	Pough	
PUBLISHER:	Pearson	
VOLUME/EDITION/URL:	8th	
COPYRIGHT DATE:	2008	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
<i>Unit I – Classification, Characteristics of Vertebrates, Population Ecology</i>		
Introduction, Chordate Characteristics, Urochordata, Cephalochordata, Vertebrata (Craniata)	1	1. Recognize the characteristics of the Subphyla Urochordata, Cephalochordata and Vertebrata (Craniata).
Classification	3	1. Recognize the importance of taxonomy and systematics. 2. Utilize the binomial system of nomenclature. 3. Identify living and preserved animal specimens using taxonomic keys and field guides.
Population Ecology	2	1. Describe how speciation occurs. 2. Recognize geographic variations among groups of vertebrates.
<i>Unit II – The Fishes</i>		
Agnathans- Jawless fish	1.5	1. Describe characteristics of Classes Myxini and Cephalospidomorphi. 2. Explain the importance of the Agnathans to their ecosystems and their relevance to humans.

Gnathostomes	1	1. Summarize the evolution of jaws and paired appendages and recognize their evolutionary advantages.
Chondrichthyes	2.5	1. Describe characteristics of the Chondrichthyes and provide examples. 2. Explain morphological and functional specializations in cartilaginous fish.
Sarcopterygii	1	1. Describe characteristics of the Sarcopterygii and provide examples.
Actinopterygii	3	1. Describe characteristics of the Actinopterygii, compare its major groups and provide examples. 2. Discuss gas exchange and buoyancy in the fishes. 3. Describe various types of integuments of fish. 4. Compare reproduction methods in various fish groups. 5. Summarize importance of fish species to humans and in their ecosystems.
Illinois Fish Species	2	1. Identify common species of fish in Illinois.
<i>Unit III – The Amphibians</i>		
Tetrapod Evolution	1	1. Discuss the evolution of tetrapods and the advantages of terrestrial activity.
Amphibian Forms and Characteristics	1	1. Summarize evolutionary advancements in amphibian form and function.
Order Anura	1.5	1. Describe the characteristics of the members of the Order Anura. 2. Discuss reproduction and life cycles of members of this order. 3. Explain the ecological importance and human relevance of the Anurans.
Order Caudata	1.5	1. Describe the characteristics of the members of the Order Caudata. 2. Discuss reproduction and life cycles of members of this order. 3. Explain the ecological importance and human relevance of the Caudatans.
Order Gymnophiona	1.5	1. Describe the characteristics of the members of the Order Gymnophiona. 2. Discuss reproduction and life cycles of members of this order. 3. Explain the ecological importance and human relevance of the Caecilians.
Human Impacts on Amphibians	0.5	1. Explain human impacts on amphibians. Recognize the significance of the chytrid fungus on amphibian survival.
Illinois Amphibian Species	2	1. Identify common amphibian species by sight and sound (Anurans).

<i>Unit IV – The Reptiles</i>		
Reptile Forms and Characteristics	1.5	1. Summarize evolutionary advancements in reptile form and function. 2. Recognize the importance of the amniotic egg and describe its components.
Order Testudines	2	1. Describe the characteristics of the members of the Order Testudines. 2. Discuss reproduction and life cycles of members of this order. 3. Explain the ecological importance and human relevance of the turtles.
Order Rhynchocephalia	0.5	1. Describe the characteristics Tuataras. 2. Explain the ecological importance and human relevance of the Tuataras.
Order Squamata	2.5	1. Describe the characteristics of the members of the Order Squamata. 2. Discuss reproduction and life cycles of members of this order. 3. Explain the ecological importance and human relevance of the squamates.
Human Impacts on Reptiles	0.5	1. Explain human impacts on reptiles.
Illinois Reptile Species	4	1. Identify common species of turtles, snakes and lizards.
<i>Unit V – The Crocodilians & Birds</i>		
Crocodilian Forms and Characteristics	1	1. Summarize evolutionary advancements in Crocodilian form and function.
Class Aves	4.5	1. Summarize evolutionary advancements in Avian form and function. 2. Discuss the theories of the origin of flight. 3. Describe the characteristics of the members of the Class Aves. 4. Discuss reproduction and life cycles of birds. 5. Discuss bird migration, including major migratory bird flyways. 6. Explain the ecological importance and human relevance of the birds.
Human Impacts on Birds	0.5	1. Explain human impacts on birds.
Illinois Bird Species	6	1. Identify common species of birds by sight and sound.
<i>UNIT VI—The Mammals</i>		
Mammal Forms and Characteristics	1.5	1. Summarize evolutionary advancements in Mammalian form and function.

Class Mammalia	2.5	1. Describe the characteristics of the members of the Class Mammalia. 2. Discuss reproduction and life cycles of members of this class. 3. Explain the ecological importance and human relevance of non-human mammals.
Mammalian Orders	2.5	1. Identify mammalian orders, including characteristics and representative organisms.
Human Impacts on Mammals	0.5	1. Explain human impacts on mammals.
Illinois Mammal Species	4	1. Identify common species of mammals. 2. Identify examples of select mammalian skulls, scat and tracks.
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	60	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	• Demonstrate an understanding of the binomial system of nomenclature, classification, taxonomy, and the basic terminology associated with population ecology.
	• Describe the general characteristics of fish, including specializations, conservation, and identification of Illinois fish families and species.
	• Describe the general characteristics of amphibians, including specializations, conservation, and identification of Illinois amphibian families and species.
	• Describe the general characteristics of reptiles, including specializations, conservation, and identification of Illinois reptile families and species.
	• Describe the general characteristics of cro birds, including specializations, conservation, and identification of Illinois bird families and species.
	• Describe the general characteristics of mammals, including specializations, conservation, and identification of Illinois mammal families and species.

* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.