

# FWCE 330 – NATURAL HISTORY OF THE VERTEBRATES

Lecture Schedule – Fall 2010

T & Th: 11:45 – 13:00

**Course objective:** To provide a foundation in vertebrate natural history including an understanding of the evolution, ecology, behavior and physiology of extant and extinct vertebrates.

Professor: Dr. Gary Roemer, Knox Hall 110  
Office Hours: W 10:00 – 12:00 or by appointment

Teaching Assistant: Mr. Quinn Robinson, Knox Hall 135  
Office Hours: W 12:00 – 14:00 or by appointment

<u>Date</u>	<u>Topic</u>	<u>Chapter</u>
Th 19 Aug	Introduction	1 (pp. 1 - 6)
Tu 24 Aug	Overview of Vertebrate Evolution & Classification	1 (pp. 6 - 15)
Th 26 Aug	Vertebrate Characteristics & Origins	2*
Tu 31 Aug	Jawless Vertebrates (The “Agnathans”)	3
Th 2 Sep	Rise of the Jawed Vertebrates (The Gnathostomes)	3
Tu 7 Sep	Cartilaginous Fishes (The Chondrichthyes)	5*
Th 9 Sep	Bony Fishes (The Osteichthyes)	6
Tu 14 Sep	Life in Water	4*
Th 16 Sep	Video – “The Missing Link – the Coelacanth”	
----- <b>Cut Off for Exam 1</b> -----		
<b>Tu 21 Sep</b>	<b>EXAM 1 (covers lectures from 19 August to 14 September)</b>	
Th 23 Sep	Terrestrial Radiations and the Amniotes	7, 8 & 9
Tu 28 Sep	Review Exam I /Origin of the Lissamphibia	10*
Th 30 Sep	Lissamphibia – Character displacement/Metamorphosis	10
Tu 5 Oct	Lissamphibia/Testudines – Concerted Evolution: How the Turtle got its shell	10
Th 7 Oct	Testudines – Marine Turtle Conservation	12*
Tu 12 Oct	Lepidosauria – Origin of Lizards & Snakes	13
Th 14 Oct	Lepidosauria – How the horned lizard got its horns	13* <b>TH</b>
Tu 19 Oct	Lepidosauria – Snake digestion	11, 15
Th 21 Oct	DVD - "Mastery of Flight"	
----- <b>Cut Off for Exam 2</b> -----		

<b>Tu 26 Oct</b>	<b>EXAM 2 (covers lectures from 23 September to 19 October)</b>	
Th 28 Oct	Evolution of Archosaurs – Are birds dinosaurs?	16
Tu 2 Nov	Evolution of Aves & the Origin of Flight	16*
Th 4 Nov	Respiratory Physiology of Birds	17
Tu 9 Nov	DVD – “The Winning Design”	20
Th 11 Nov	Review Exam II /Ecology of Birds – The miraculous Galapagos finches	17*
Tu 16 Nov	Origin of Mammals & Endothermy	18, 19 & 22
Th 18 Nov	Mammalian Reproduction – The amazing placenta	21*
<b>Tu 23 Nov</b>	<b>Thanksgiving Holiday</b>	
<b>Th 25 Nov</b>	<b>Thanksgiving Holiday</b>	
Tu 30 Nov	Community Ecology of Mammals – Trophic relations and the influence of body size	23*
Th 2 Dec	Conservation of Vertebrates – Human caused extinction	25

**FINAL EXAM – Tuesday December 7, 10:30 AM – 12:30 PM  
in Knox 142 (Comprehensive but focuses on material from 28 October  
to 2 December)**

Required Texts: Pough, F. H., Janis, C. H., & Heiser, J. B. 2005. Vertebrate Life, 8<sup>th</sup> Edition. Prentice-Hall, New Jersey.

Borror, D. J. 1988. Dictionary of word roots and combining forms. Mayfield Publ. Co., Mtn. View, California.

Recommended: National Audubon Society. 1997. Field guide to North American fishes, whales and dolphins. Chanticleer Press, Inc., NY.

Stebbins, R.C. 2003. Western reptiles and amphibians (Peterson Field Guides). Houghton Mifflin, Co.

Sibley, D. A. 2003. The Sibley field guide to birds of Western North America. Alfred A. Knopf, New York.

Reid, F. A. 2006. Mammals of North America. Peterson Field Guides, Houghton Mifflin Co., Boston.

### Grading

#### Lecture

Three lecture exams: first two (100 pts each), final exam (125 pts) for 325 pts total. Final exam will have 25 pts that are cumulative in nature.

**Ten quizzes each worth 10 pts for a total of 100 pts – ALL QUIZZES WILL BE RANDOM AND BASED ON THE REQUIRED READINGS. You will be able to work in teams to discuss the question, and then you will have to answer the question autonomously.**

Lab

Four lab exams (100 pts each) for 400 pts total.  
Three exercises each worth 25 pts for a total of 75 pts.

Field Trips

A minimum of one required field trip (25 pts); field trips will occur on a weekend (see lab syllabus for more details).

**Total points possible in the class = 425 (lecture) + 475 (lab) + 25 (Field Trip) = 925 pts.**

**Policy:**

1. All points will count.
2. No exam or quiz grades will be dropped.
3. If you miss an exam or quiz you will have to have prior approval from me. Arrangements will then have to be made to take the exam or quiz. I reserve the right to give a different exam or quiz, including an oral version. If you miss an exam or quiz without prior approval you will be required to produce a well-supported excuse (e.g., a doctor's excuse or obituary).
4. Class notes will not be provided, handouts will be, and often, scientific literature will be provided as well.
5. Cheating in any form (e.g., plagiarism) will result in disciplinary action based on the University's Student Code of Conduct (<http://www.nmsu.edu/~vpsa/SCOC/misconduct.html>). It is your responsibility to understand what plagiarism is.
6. Alcohol or illegal drugs are not permitted on field trips.
7. Personal vehicles are not allowed on field trips unless under special extenuating circumstances that are explained to and cleared with me prior to the trip.
8. To receive full credit on exam questions and quizzes, coherent sentences, well-organized paragraphs and correct spelling are required; I reserve the right to deduct points from an essay that does not use proper English.
9. You are responsible for all material covered in the course, whether that material comes from lecture, lab, videos, your readings or field trips.

**Expectations:**

1. Keep in mind that full-time (i.e., 40 hrs/wk) is equivalent to 12 credits, so you can expect to spend slightly more than 13 hrs/wk on this course alone. You will spend nearly 7 hrs in class, so you can expect to spend 6 hrs studying outside of class each week.
2. If you have difficulty with a subject, I would expect that you will want to learn, that you will read your notes and your book, that you will seek help from your peers, that you will use other sources of information (other books, periodicals, the web) and that you will seek assistance from your TA and myself – all of these forms of learning are available to you. You are responsible for learning and understanding all of the information provided and you are expected to have a command of the course material, by the time an exam is given, that is equivalent to mine.
3. I hope that you will have fun.

**Students with disabilities:**

If you have (or believe you have) a disability and would benefit from classroom accommodation(s), please contact the Services for Students with Disabilities (SSD) Office located at Corbett Center, Room 244 [Phone: 646-6840; TTY: 646-1918]