VERTEBRATE BIOLOGY BIOL 3414
DEPARTMENT OF LIFE SCIENCES
FALL 2015

A. COURSE INFORMATION

Course number/section: BIOL 3414.001; BIOL 3414.101, 3414.102, 3414.103 (lab)
Class meeting time: Lecture – TR 8-9:15 am; Lab – M 8-10:50; 11-1:50, 2-4:50
Class location: Lecture – CS 101; Lab – CI 206
Course website: currently unavailable

B. INSTRUCTOR INFORMATION

Instructor: Kim Withers
Office location: NRC 3205
Office Hours: 10-12 MW, 11-1 T
Telephone: 825-5907
Email: Kim.Withers@tamucc.edu
Appointments: Call to set up an appointment outside of office hours

C. COURSE DESCRIPTION

Catalog Course Description
Ecology, life history, and conservation of the vertebrates, including the evolutionary development of the vertebrate classes and their interrelationships. Structure, classification, and identification of the vertebrates and techniques for their study in the field. Required weekend field trip. Prerequisite BIOL 1407. SMTE 0091 is a co-requisite for this course. Documented completion of this safety training is required early in the semester for continued participation in this course. Safety training given during a laboratory meeting early in the semester is required for continued participation in the course.

Extended Course Description
Students in this course will investigate the natural history, biology, ecology, evolution, and conservation of vertebrates around the world. Understanding biological nomenclature and the role of Greek and Latin prefixes, suffixes, and roots will be emphasized. The lab includes comparing and contrasting the structure of the various vertebrate classes to better understand the evolutionary relationships among the classes. The lab also includes a significant identification component – learning how to use dichotomous keys and other materials to determine the species – and a focus on the external structures that are important for this task. A MANDATORY field trip introduces students to field techniques in the study of vertebrates.

D. PREREQUISITES AND CO-REQUISITES

Prerequisites
BIOL 1407 Biology II

Corequisite
SMTE 0091 Biological Laboratory Safety Seminar

E. REQUIRED TEXTBOOKS, READINGS, & SUPPLIES

Required Textbooks
You can use either the 8th or 9th edition.


Other Required References
Laboratory Course Packet – Vertebrate Biology


Additional readings from the primary literature and other sources will be assigned throughout the semester.

Required Supplies

Lab Coat

Three-ring binder for laboratory notebook

Recommended Textbooks


F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Students in this course will become familiar with the life history and biodiversity of the vertebrates, and issues in their conservation and management. The lab will focus on comparative anatomy of the vertebrate classes, with an emphasis on function, taxonomy of the vertebrates, and techniques for studying and managing vertebrates.

By the end of this course, students should be able to:

1. DEMONSTRATE knowledge of relationships among and between the vertebrate classes with regard to their evolution, anatomy and physiology, taxonomy, and ecology
2. UNDERSTAND the system of biological nomenclature as it relates to the vertebrates and DEMONSTRATE knowledge of the role of Greek and Latin word roots and combining forms in biological nomenclature
3. UNDERSTAND how vertebrate anatomy and physiology affect their life history
4. UNDERSTAND the social, economic and political issues affecting the exploitation of vertebrates well as their management and conservation
5. USE selected field techniques for the study of vertebrates

G. INSTRUCTIONAL METHODS & ACTIVITIES

Lecture, readings with discussion, and case studies will be the bulk of the “lecture” portion of the course. For the lab, students will be guided through structured exercises and observations that are designed to ensure that they understand the structure of vertebrates, the evolutionary relationships among the classes that the structure reveals, and the methods by which vertebrates are classified and identified. In addition, field techniques for studying vertebrates in the field will be explored during the mandatory field trip.

H. MAJOR COURSE REQUIREMENTS & GRADING CRITERIA

<table>
<thead>
<tr>
<th>Element</th>
<th>Student Learning Outcome</th>
<th>Points (% of Grade)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Exams (3)</td>
<td>1-3</td>
<td>300 (32%)</td>
</tr>
<tr>
<td>Case Studies (2 @ 50pts each)</td>
<td>1-3</td>
<td>100 (10.5%)</td>
</tr>
<tr>
<td>Vocabulary Quizzes (10)</td>
<td>1-2</td>
<td>100 (10.5%)</td>
</tr>
<tr>
<td>Lab Quizzes (10)</td>
<td>1, 3</td>
<td>100 (10.5%)</td>
</tr>
<tr>
<td>Lab Exams (2)</td>
<td>1, 3</td>
<td>200 (21%)</td>
</tr>
<tr>
<td>Lab Notebook</td>
<td>1, 3</td>
<td>100 (10.5%)</td>
</tr>
<tr>
<td>Field Trip Participation</td>
<td>4</td>
<td>50 (5%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>950</td>
</tr>
</tbody>
</table>
Grades will be assigned as follows:
A = 90% or greater
B = 80-89%
C = 70-79%
D = 60-69%
F = <70%

I. COURSE CONTENT/SCHEDULE (TENTATIVE)

I RESERVE THE RIGHT TO ALTER THE SCHEDULE AT ANY TIME

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction – Diversity, Evolution, Classification</td>
<td>Vertebrate Origins &amp; Phylogeny, using dichotomous keys</td>
</tr>
<tr>
<td>2</td>
<td>Origins, Early vertebrates</td>
<td>Agnathans &amp; Cartilaginous fishes</td>
</tr>
<tr>
<td>3</td>
<td>Continue, Fishes</td>
<td>Bony fishes</td>
</tr>
<tr>
<td>4</td>
<td>Fishes</td>
<td>Continue</td>
</tr>
<tr>
<td>5</td>
<td>Origins and Radiation – Tetrapods, Exam 1</td>
<td>Amphibians</td>
</tr>
<tr>
<td>6</td>
<td>Amphibians, Case Study 1</td>
<td>Review</td>
</tr>
<tr>
<td>7</td>
<td>Lepidosaurus</td>
<td>Lab Exam</td>
</tr>
<tr>
<td>8</td>
<td>Lepidosaurus, Archosaurs</td>
<td>Reptiles, Archosaurs</td>
</tr>
<tr>
<td>9</td>
<td>Therapods and Evolution of birds</td>
<td>Birds</td>
</tr>
<tr>
<td>10</td>
<td>Birds</td>
<td>Comparative Anatomy, Mammals</td>
</tr>
<tr>
<td>11</td>
<td>Case study 2, Exam 2</td>
<td>Mammals continued</td>
</tr>
<tr>
<td>12</td>
<td>Mammals</td>
<td>Owl Pellets</td>
</tr>
<tr>
<td>13</td>
<td>Mammals</td>
<td>Continue</td>
</tr>
<tr>
<td>14</td>
<td>Conservation</td>
<td>Review</td>
</tr>
<tr>
<td>15</td>
<td>Conservation, Case Study 3</td>
<td>Lab Exam</td>
</tr>
<tr>
<td>Final Exam Day</td>
<td>Exam 3</td>
<td></td>
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</tbody>
</table>

A REQUIRED weekend field trip (Vertebrate Field Techniques) will be scheduled for a weekend (Friday afternoon-Saturday morning; Saturday afternoon-Sunday morning) during late September or October.

J. COURSE POLICIES

Attendance/Tardiness
You are expected to attend every lecture and lab. Courtesy dictates that you will be on time for lecture. For case studies and associated discussion activities you will not get credit for the in-class portion if you do not attend class that day.

When we are working outside during lab, please arrive at the assembly point 5 to 10 minutes early. For activities on campus you may be able to catch up, but for field trips off campus you WILL BE LEFT BEHIND IF YOU ARE NOT ON TIME.

Late Work and Make-up Exams

Late work is not accepted.

For case studies and associated discussion activities you will not get credit for the in-class portion of the activity if you do not attend class that day.

Make-up lecture exams are only given in the case of extreme circumstances, such as hospitalization or death. Documentation of the circumstances through the appropriate on-campus division will be expected and arrangements must be made PRIOR to the exam for a make-up exam to be given.

There are NO make-ups given for lab exams.
There is NO alternate credit given for the field trip. You must attend the field trip to get credit.

**Extra Credit**

There is no such thing as “extra credit” in this class. In the words of Spongebob Squarepants and Mrs. Puff:

  *Spongebob: “Mrs. Puff, I don’t feel like I really did anything.”  
  Mrs. Puff: “That’s how extra credit is supposed to feel.”*

For more about my attitude toward extra credit, see this article by Jack Slay Jr. [http://chronicle.com/article/No-Extra-Credit-For-You/44956](http://chronicle.com/article/No-Extra-Credit-For-You/44956)

**Cell Phone Use**

Please turn off and stow your cell phone when you come to class.

**Laptop Use**

I think you are generally better off to take notes by hand and transcribing them later. I will tolerate laptop use in class as long as you limit yourself to taking notes. If I see you are doing other things, like surfing the web, I will ask you to turn the laptop off.

**Food in Class**

Food or drinks are allowed in the lecture classroom, but cannot be taken into the lab. You should bring water with you on days that we are in the field.

**Missed Exam**

See “Late Work and Make-up Exam” policies above.

**K. COLLEGE & UNIVERSITY POLICIES**

**Academic Integrity (University)**

It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.

See Full University Policy at [http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity](http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity)

**Classroom/Professional Behavior**

**Deadline for Dropping a Course with a Grade of W (University)**

The grade of W will be assigned to any student officially dropping a course by **November 6, 2015**. No student is eligible to receive a W without completing the official drop process by this deadline. Visit the Office of the University Registrar for the Course Drop Form that must submitted. After **November 6, 2015** a student will not be allowed to drop a course.

**Grade Appeals (College of Science and Engineering)**

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage at
http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

Disability Services
Disability Services (DS) is the hub for coordinating services and accommodations to ensure accessibility and utilization of all programs for all Texas A&M University-Corpus Christi students with disabilities. Our services are designed to meet the unique educational needs of enrolled students with documented permanent or temporary disabilities. DS provides intake and consultation services to students seeking to register with our office. DS reviews an individual’s documentation of disability and assesses eligibility for services and the determination of reasonable accommodations. For more information visit the Disability Services Office at 116 Corpus Christi Hall or go to http://disabilityservices.tamucc.edu/

GENERAL DISCLAIMER
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.