**Bio437 / 537-001**

**Spring 2017**

**Herpetology**

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Office Hours: Mon. & Fri. 0830-1030 h; or, by appointment.

**Course Description** – Four semester hours, three hours lecture, three hours lab per week.  
Classification, distribution, ecology and evolution of amphibians and reptiles. Emphasis on natural history and identification of regional species in lab. Field trips required. Requires outside readings, papers and/or research projects. Travel and lab fees required.

**Synopsis** – This course covers the biology of amphibians and non-avian reptiles, with emphasis on the extant herpetofauna of east Texas and the western side of lower Mississippi River basin. Material presented in lecture will be supplemented with laboratory examinations of preserved specimens and field trips to regional sites for surveying available taxa. Evolutionary relationships among the taxonomic groups within the major clades will be emphasized throughout the semester.

**Co-requisite** – Bio437 / 537 lab  
Note, that there is a laboratory fee associated with this course (appearing on your tuition bill). This fee is assessed to all students to partially defray expenses associated with lab supplies and field trips.

Required Materials – lecture:  

lab:  
- your choice of a field guide to reptiles and amphibians of Eastern North America  
- hiking gear (water bottle, flash-light, boots, etc.).

Optional Materials – lab/field:  
- Magnifying lens (4- to 10-x, hand-held)  
- Herpin’ gear (tongs, hook, bags, etc.)  
Attendance – Lecture
• With the exception of school holidays, the class will meet on Mondays and Wednesdays from 1200-1315 h. Please avoid the embarrassment of arriving late.
• I would like to discourage distractions during our meeting times (including lab!). Therefore, any student will be penalized ten (10) points if their pager/mobile telephone/tablet/etc. emits any audible noise during any class meeting. Don’t even think about texting someone.
– Laboratory
• Attendance is mandatory for the lab section, from 1000-1250 h on Thursdays. More than two unexcused absences on lab days during the term will result in your receiving a failing (“F”) grade for the entire course. Please make an effort to avoid scheduling extracurricular events following lab periods.
• Several of the lab periods will be used for field trips – please dress appropriately for field exercises (rain or shine). On field trip days, you should not necessarily expect to be back on campus at the conclusion of the class period. Optional field trips will be hastily organized as a function of weather conditions. Knowing that participation in field experiences is a privilege that should not be taken lightly, you should do all that you can to keep up with your other course work because these last-minute extra-curricular trips will not be valid excuses for postponed assignments or exams in this, or other, classes.

Semester Project
Students will each be required to give a presentation to the rest of the class that summarizes a piece of research recently reported in the primary literature. These articles are selected to expand our coverage of material that I will not have time to present during the rest of the term. During your presentation (60 pts), we will simulate the setting at a professional conference where you assume the role of the paper’s author(s). At a different time, each of you will also evaluate the presentation given by someone else in the class – you will provide a written review (15 pts) that provides feedback on your peer’s presentation content. During presentations other than your own and that which you evaluate, I expect you to pose questions based on what you’ve learned (i.e., participation required; 10 pts).

Grading – Proper English counts! One point will be deducted from your course total for every five spelling (&/or grammar/context/syntax/punctuation) errors on any of your written assignments or exams.

Exams – Lecture
Unless otherwise noted, lecture exam format will generally consist of short answer and essay questions. There will be 4 exams given over the course of the semester, plus a final exam. Each lecture exam is worth 50 points and covers only the portion of the course immediately prior to their test date (i.e., they are not cumulative). The final exam is worth 160 points and is comprehensive, including questions concerning material presented throughout the semester and the term project presentations.

If you miss an exam, it is your responsibility to contact me before the next class meeting – failure to do so will result in a ZERO grade for that exam. Written make-up exams are not necessarily an option – if you miss an exam with an excused absence, the make-up will be administered as soon as is mutually convenient and might be comprised of oral responses to my questions.
Laboratory
There will be 3 practical exams given over the course of the semester during lab period, each worth 60 points – none of these exams will be comprehensive (each covering only material directly preceding the exam date). Laboratory practical exams will test your ability to correctly identify and classify different herpetofauna, and understand various life-history traits. Practicals are timed exams, and there are NO make-up practicals for any reason.

So, here’s a point break-down for the course:

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
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<tbody>
<tr>
<td>Lecture exams (4 @ 50 points each)</td>
<td>200 points</td>
</tr>
<tr>
<td>Laboratory practicals (3 @ 60 points each)</td>
<td>180</td>
</tr>
<tr>
<td>Lecture final exam</td>
<td>160</td>
</tr>
<tr>
<td>Project presentation &amp; review</td>
<td>75</td>
</tr>
<tr>
<td>Participation &amp; miscellaneous</td>
<td>35</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>650 points</strong></td>
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Thus, your awarded grade for the class will be determined on a 650-point scale. I will follow the standard 10-%age point scale (90-100 % = ‘A’, 80-89 % = ‘B’, etc.).

**BONUS!** – Helping herpetofaunal research helps you! – Although learning is positively correlated with effort, I’m willing to slightly decrease that slope in exchange for some effort on your part. Some of these bonus points are available from the field component of this course (explained later). Others will (hopefully!) be earned through your participation in on-going research efforts of the Mullin lab. Field work-days will be announced with as much advance notice as possible, and each student can receive 2 bonus points for each hour they volunteer (maximum credit awarded for research assistance = 10 pts.).

Handling Vertebrate Animals: The Institutional Animal Care & Use Committee mandates that all individuals who work with vertebrates in the process of completing research or their coursework be appropriately trained. During this course, you will receive instruction concerning the safe and ethical handling of animals. You will be asked to review federal guidelines describing animal care and complete a release stating that you understand these guidelines. Furthermore, you will be asked to complete a disclaimer stating that you will not participate in any activity that disrupts this class because of its use of vertebrate animals.

Further Assistance with course material -- If you suddenly find yourself with a question that is burning a hole in your brain, and cannot reach me, there are several ways of obtaining an answer. Here are some examples:
1. The authors of your lecture text have provided a variety of resources for you to follow up on presented material. In addition to the chapter summaries, there are multiple links to on-line instructional materials available here: [http://sites.sinauer.com/herpetology4e/](http://sites.sinauer.com/herpetology4e/)
2. SFA provides the Academic Assistance and Resource Center (AARC) for all aspects of your academic achievement. To make an appointment, call x1412, or go to Steen Library.
3. Help each other -- get to know your fellow students! Active learning through testing each other on the material is one of the most effective ways to learn where your weaknesses lie with this subject matter.
4. I’d like to encourage you to listen in lecture, not just show up and scribble furiously – so, check out my lecture outlines posted on the D2L site for this course. I will manage other course content through the D2L platform. It is the responsibility of each student to become familiar with D2L; however, do not send email messages to me using this system because you will not receive my replies.

5. There are a plethora of sites on the world wide web related to herpetology; a good place to start might be the following website: &lt;http://herpetology.com/&gt;. For something more applicable to our region, the biology subject librarian, Erica Chapman, has put together a companion “library page” for the course: &lt;http://libguides.sfasu.edu/herp&gt;

Field Experiences – You will receive lots of instruction about field trips, regardless of their duration; following directions will make these experiences more enjoyable for everyone. As stated above, field time is a privilege and I work very hard to make certain that each participant gets the most out of it. Therefore, some guidelines….

- Attending a field trip scheduled during lab times is just as mandatory as an in-house lab.
- Field trips will have some participation, and possibly bonus, points tied to them. If you miss a trip that is scheduled during the regular lab period, you are not eligible for those points.
- Extra-curricular field trips are not required; if you join us, however, that does not mean that you can behave irresponsibly. Remember that you still represent the University.

Assignment #1 (5 participation points; due 20 Jan. by 1600 h)
Send me an e-mail message from your preferred email address (but not D2L) containing the following items (un-numbered), each on a new line of text:

- your name as you wish to be addressed
- your campus identification number (CID)
- your phone #
- a version of the following statement:
"Yes/No you may/may not release my phone number to the rest of the class."
Miscellany as required by the University:

Academic Integrity (A-9.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Program Learning Outcomes:
PLO 1: The student will demonstrate a good knowledge base in biological concepts.
PLO 4: The student will be able to design, carry out, and analyze experiments to answer biological questions using the scientific method.
PLO 6: The student will demonstrate preparation for future career and educational goals.

Student Learning Outcomes:
Student performance will be assessed with lecture exams during the semester, a cumulative final exam, article reviews, and laboratory practical exams. Students who successfully complete Herpetology will be familiar with the following:

- evolutionary relationships within and among major amphibian and reptile taxa.
- diagnostic traits of major amphibian and reptile taxa.
- behavioral, morphological, and physiological adaptations of amphibia and reptiles and their function in an ecological context.
- the majority of local amphibian and reptile species.
- conservation priorities and strategies for amphibians and reptiles at both regional and global scales.
**HERPETOLOGY**  
**Lecture Schedule**  

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Readings</th>
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</thead>
</table>
| 1    | Introduction; Herpetology’s “occupation” within biology  
Phylogeny and biogeography of amphibians | Ch. 1  
Ch. 2 & 5 |
| 2    | Amphibian functional morphology | Ch. 3 & 10 |
| 3    | Amphibian physiology and energetics  
*1st lecture exam* | Ch. 6 & 7 |
| 4    | Amphibian life-history traits & adaptations | Ch. 11 & 15 |
| 5    | Amphibian life-histories & reproduction | Ch. 8 & 14 |
| 6    | Amphibian ecology | Ch. 12, 13 & 16 |
| 7    |  
*2nd lecture exam*  
STUDENT PAPER PRESENTATIONS |  |
| 8    |  
STUDENT PAPER PRESENTATIONS |  |
| 9    | Phylogeny and biogeography of reptiles  
Reptilian functional morphology | Ch. 2 & 5  
Ch. 4 & 10 |
| 10   | Reptilian physiology and energetics | CH. 6 & 7 |
| 11   | Reptilian life-history traits & adaptations  
*3rd lecture exam* | Ch. 11 & 15 |
| 12   | Reptilian life-histories & reproduction | Ch. 9 & 14 |
| 13   | Reptilian ecology | Ch. 12, 13, & 16 |
| 14   | Researching herpetofaunal communities  
*4th lecture exam* |  |
| 15   | Conservation biology of herpetofauna  
Course review | Ch. 17 |

**Final Exam** is on Monday, 8 May, at 1300 h.

All exam dates except the final are tentative and subject to change with appropriate notice. Questions? Feel free to contact me at your convenience (936.468.3601 or sjmullin<at>sfasu.edu).
<table>
<thead>
<tr>
<th>Date(s)</th>
<th>Subject Matter</th>
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<tbody>
<tr>
<td>19 Jan.</td>
<td>Introduction; discussion of term projects &amp; field trips/herpin’ gear.</td>
</tr>
<tr>
<td>26 Jan.</td>
<td>Caudata &amp; Gymnophiona</td>
</tr>
<tr>
<td>2 Feb.</td>
<td>Anura</td>
</tr>
<tr>
<td>9 Feb.</td>
<td><strong>Lab practical #1</strong></td>
</tr>
<tr>
<td>16 Feb.</td>
<td>Testudines</td>
</tr>
<tr>
<td>23 Feb.</td>
<td>Lacertilia</td>
</tr>
<tr>
<td>2 Mar.</td>
<td>Early Spring Field Trip</td>
</tr>
<tr>
<td>9 Mar.</td>
<td><strong>Lab practical #2</strong></td>
</tr>
<tr>
<td>16 Mar.</td>
<td>SPRING BREAK</td>
</tr>
<tr>
<td>23 Mar.</td>
<td>Serpentes</td>
</tr>
<tr>
<td>30 Mar.</td>
<td>Mid-Spring Field Trip</td>
</tr>
<tr>
<td>6 Apr.</td>
<td>Crocodylia, Rhynchocephalia, &amp; Amphisbaenia; and, paper review.</td>
</tr>
<tr>
<td>13 Apr.</td>
<td>No lab – gummy snakes, anybody?</td>
</tr>
<tr>
<td>20 Apr.</td>
<td><strong>Lab practical #3</strong></td>
</tr>
<tr>
<td>27 Apr.</td>
<td>Field trip</td>
</tr>
<tr>
<td>4 May</td>
<td>Field trip</td>
</tr>
</tbody>
</table>

Lab practicals will start at 1100 h on days when they are scheduled.

To help you get more out of this course, you can expect that additional field trips will be (spontaneously) organized if appropriate weather conditions present themselves. So, prepare yourself for additional opportunities in the field by staying on top of your other coursework! Feel free to contact me at your convenience (936.468.3601 or sjmullin<at>sfasu.edu).