ZOO 4462C – Herpetology
Spring 2023, 4 credits

Course Schedule – See page 10

Instructor: Dr. Gregg Klowden (pronounced "Cloud - in")
Office: Room 202A, Biological Sciences
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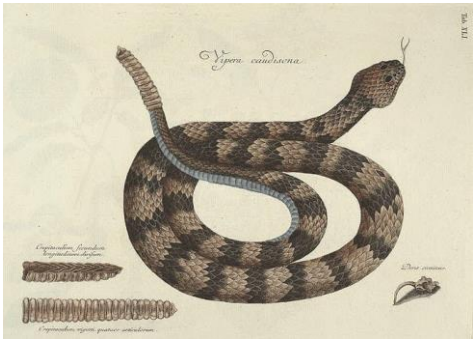
Phone: Please send an email instead



Mark Catesby (1731) "Natural History of Carolina, Florida and the Bahama Islands"

***"These foul and loathsome animals . . . are abhorrent because of their cold body, pale color, cartilaginous skeleton, filthy skin, fierce aspect, calculating eye, offensive smell, harsh voice, squalid habitation, and terrible venom; and so their Creator has not exerted his powers to make many of them."* Carolus Linnaeus (1758)**

*****Email Requirements:** I teach several courses and receive a large volume of emails. To help me help you please:

1. format the subject of your email as follows: "Course – Herpetology, Subject - Question about exam 1"
2. include your 1st and last name in the body of all correspondence.
   - I try to respond to emails within 48 hours however, response time may be greater.
     - Please plan accordingly by not waiting to the last minute to contact me with questions or concerns.
   - All messaging must be done using either Webcourses or your Knight's E-Mail.
     - Messages from non-UCF addresses will not be answered.
   - Due to confidentiality, questions about grades should be sent via Webcourses messaging, not via email.

Office Hours: When – Mondays 2:00p-4:00p, Wednesdays 10:00a-12:00p and 1:00-3:00p, Fridays 11:00a-12:00p

How: By appointment only:

- To schedule an appointment, go to: https://calendly.com/dr_klowden/office_hours
- Appointments must be scheduled at least 1 day in advance.

Where: On Zoom on Webcourses

- Go to the Office Hours page on Webcourses for the Zoom link (Must make an appointment first)

- Office hours are not just to answer questions related to the class. Feel free to discuss any biological topic, graduate school entrance, jobs, etc.
- Exams may not be reviewed on Zoom but instead must be reviewed in-person. Details for exam review times will be announced.

Graduate Teaching Assistant: Matthew Atkinson <MsAtkinson@Knights.ucf.edu>

Scheduled Class Times: Lecture: Tuesdays and Thursdays 11:30a - 12:50p

- All lectures will occur in-person.

Lab: Thursdays 8:00a -11:20a in-person in BSFS 105 or elsewhere as announced.

- BSFS = Biological Sciences Field Station (aka Biological Field Research Center (BFRC) or Building 92
- Located off Ara Dr., east of the campus police station. <https://map.ucf.edu/?show=92>
- Park and enter in the **rear** of the building

Course Prerequisite: BSC 2010C, BSC 2011C, PCB 3044, with a grade of 'C' or better, or C.I.

Course Description: Introduction to the biology of the amphibians and reptiles, their classification, evolution, and life histories.

Course Outline:

Herpetology is the study of amphibians and non-avian reptiles. This is an unnatural (non-monophyletic) and somewhat strange grouping. Crocodilians and amphibians have not shared a common ancestor for over 300,000,000 years, crocodilians are more closely related to birds than lizards (birds are simply highly modified reptiles), and lizards are more closely related to mammals than frogs! Herpetology, therefore, is somewhat a science of convenience. This course will survey the origin, evolution, systematics, taxonomy, anatomy, physiology, ecology, and conservation of amphibians and non-avian reptiles. While we will examine global diversity of frogs, salamanders, caecilians, lizards, tuataras, snakes, turtles and crocodilians, there will be a special emphasis on the diverse herpetofauna of Florida. The laboratory component of this course is broken into 2 portions: One will make use of preserved specimens to illustrate morphology, taxonomy, systematics, and biogeography. The second will include field trips and as much hands-on experience as possible. You will learn some of the methods that biologists use to capture, identify, and understand the ecology of amphibians and reptiles. The goal is to provide you with some background and experience which will better equip you for independent or graduate-level research, to work as a field biologist, or just to become more aware of the "creepy and crawly" things around you.

Course Objectives:

* To learn the evolutionary history of major groups of amphibians and reptiles and the biological characters which distinguish amphibians and reptiles from one another and other vertebrate groups.
* To learn the taxonomy, systematic relationships, patterns of distribution and ecology of many of the amphibian and reptile families of the world, genera of North America, and species in Florida.
* To learn the diversity and variability among families and species, including anatomy, physiology, behavior, ecology, and life history.
* To learn major conservation issues of amphibian and reptile populations.
* To learn field and lab identification techniques and methods used for sampling reptile and amphibian populations.

Required Resources:

+ **Text:** Pough, F.H., R. M. Andrews, M. L. Crump, A. H. Savitzky, K. D. Wells, and M. C. Bradley. 2016. Herpetology, 4th edition. Sinauer Associates, Inc. Sunderland, Massachusetts, USA. 591 pp. Available at Book Store.
+ **Webcourses:** Lecture notes, Zoom, announcements, assignments, grades, etc. will be made available at this site.
+ **Hardware**: Desktop or laptop computer, stable internet connection, web camera, microphone
+ **Software**: Webcourses@UCF supported web browser, Zoom*, Microsoft 365*, Adobe Acrobat* (*free download available for all students at https://ucfapps.cloud.com)
+ **Zoom**: All office hours will occur via Zoom (Link available on Webcourses).
  - You must sign into Zoom within Webcourses and using your UCF NID and password.

For technical support see: https://www.ucf.edu/online/student-resources/ucf-it-support/
or: https://cdl.ucf.edu/support/webcourses/

Optional Resources: For lab and field work and your own personal library, I highly recommend these guides:

* Powell, R., R. Conant & J. T. Collins. 2016. *Peterson Field Guide To Reptiles And Amphibians Of Eastern And Central North America*, 4th ed.
* iPhone app - Audubon Reptiles and Amphibians: A Field Guide to North American Reptiles and Amphibians
* Powell, R., J. T. Collins, and E. D. Hooper. 2012. Key to the Herpetofauna of the Continental United States and Canada, second edition. University of Kansas Press, Lawrence, KS.

Student Responsibilities:

Lectures

It is to your advantage to regularly attend lectures and to be on time. Also, out of respect for your peers, please do not disrupt class by being tardy. If this is unavoidable, you should sit near the door to reduce disruption to the class. All cell phones should be turned OFF (not on vibrate) before entering the classroom. Students should not disrupt other students (or the instructor) in class by talking unless instructed to do so by the instructor. Anyone texting during lecture or lab or using her/his computer for reasons not related to class will be asked to leave for the day.

Readings – Readings are designed to coincide with and supplement the lecture component of the course.

Lecture Exams

There will be 3 lecture exams. The 3rd lecture exam will occur during the final exam period. None of the lecture exams will be comprehensive, however complete understanding of information on later exams may require knowledge of previously covered material. The questions will be predominantly short answer essays but may also include multiple choice, fill in the blank and other formats. All questions will pertain to material covered in lectures and textbook readings (but not lab). Exams will be challenging. To be adequately prepared it is critical that you stay caught up and do not cram at the last minute. Bring a #2 pencil, eraser, and student ID with you to each exam.

Late for the exam policy

If you arrive late for any exam you will be allowed to take the test if no one has yet turned in an exam. However, you must turn in the exam at the regular scheduled end of the test. You will not be allowed extra time unless a documentable emergency has occurred.

Missed Exam Policy:

1. Make-up exams will be provided *only* for students with a valid, documented reason for missing an exam or other required class, you must provide Dr. Klowden with appropriate documentation from a competent authority (physician, coach, counselor, etc.). Falsified documentation will be dealt with according to university academic honesty polices. Acceptable absences include major illness, serious family emergencies, special curricular or professional requirements (e.g. attending a scientific meeting), court-imposed legal obligations, military obligations, certain religious holidays, and participation in official university-sponsored activities (e.g. intercollegiate athletics). Excuses from relatives (including relatives who are doctors, dentists, attorneys, etc.) will NOT be accepted. Work- or travel-related absences will NOT be considered valid excuses (e.g. "I had to cover someone else's shift", "my parents booked airplane tickets").
2. When foreseeable, you must contact Dr. Klowden prior to the absence to make arrangements for completion of assignments.
3. For unforeseeable absences, you must contact Dr. Klowden within 24 hours after missing the exam and provide *documentation signed by a doctor, police officer, judge, coach, etc. within one week*.
4. Make up exams will have different questions than the original exam but will be of similar difficulty.
5. Unexcused absence from an exam will result in a failing grade for the missed exam.

Lecture Exam Review

After exams have been graded if you would like to review your exam you may do so in-person the following week after the lab exam.

Labs – All labs will occur in BSFS 105 or other locations.

Labs are an integral - and FUN! - part of this course and should be taken seriously. The University of Central Florida provides access to a tremendous diversity of prepared slides, preserved specimens and skeletons, and supplies vans and equipment for field labs and trips at considerable expense. Please take care with all lab equipment so that it remains in good shape for your peers. **Attendance is mandatory for ALL labs**. Missing a lab, arriving late, or leaving before being dismissed will result in a 10% reduction to your final course grade for each of the 1st two occurrences and a course grade of 'F' will be given upon the 3rd occurrence. Even if your absences are excused, if you miss 3 or more labs you will receive an F, even if those absences are excused absences. It is your responsibility to contact Dr. Klowden prior to or as soon as is possible following an absence. An authorized absence does not excuse you from any missed work. You are individually and entirely responsible for all information, announcements, assignments, and/or handouts that you miss during an absence. Work missed due to unauthorized absence cannot be made up and a grade of zero will be recorded. Work missed due to an authorized absence must be made up or will be assigned a grade of zero.

Labs will consist of both indoor and outdoor (field) labs.

Indoor Labs

Students will observe preserved, skeletal and slide specimens and dissect representative specimens within the major amphibian and reptile groups. Students will learn the key characteristics used to identify and differentiate groups (e.g. Families, species, etc.) with emphasis being placed on characteristics useful to their identification in the field or museum collections.

Lab Exams

The 2 lab exams will be in a "practical" exam format consisting of a number of stations with 2 questions at each station. You will have 2 minutes to answer the questions and then must move to the next station. You will have 5 additional minutes to briefly return to any desired stations. At each station there will be preserved specimens, dissected specimens, slides, etc. similar to those observed during labs. Questions may ask you to identify the taxonomic group (YES spelling counts so practice, practice, practice!), name which of the specimens shown are most closely related, identify a labeled structure or its function, or something about the ecology of the organism (e.g. its distribution or preferred habitat or food). Answers will generally consist of 1 or 2 words. As there is a good amount of material and a need for near instant recall of the information, it is essential that you spend a substantial amount of time reviewing the material prior to the lab exam.

Lab Quizzes

Lab quizzes are designed to encourage you to stay caught up. It is to your benefit to take these seriously as success on lab quizzes is likely to enhance your chances of success on lab exams. Lab quizzes will require knowledge of the phylogeny, common and scientific names, and other specific details from lab. Specific areas of focus for each quiz will be announced prior to each quiz.

Outdoor (Field) Labs:

We will have several field trips and outdoor "field" labs. These labs will likely extend beyond the scheduled lab time into the scheduled lecture time (8:00a-12:50p). In some of these labs we will try to capture reptiles and amphibians and will learn techniques used by field ecologists to learn where amphibians and reptiles occur, what controls their abundance, and how they interact with each other and their

environment. Handling of live reptiles and amphibians by the students is at the discretion of the instructor. Care must be taken to insure that the animal will not be injured or endangered. It is forbidden for any student to handle a venomous reptile or other dangerous animals and may result in a grade of F for the class. Guidelines for the use of live amphibians & reptiles in research & education have been written by the three major U.S. herpetological societies and can be found here: http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsresearch2004.pdf.

For all outdoor field labs please wear long pants, long sleeves, socks and close toed shoes that can get wet and dirty since you are likely to encounter waist high vegetation, poison ivy, biting insects, rain, mud, etc. and may be wading in the water. If you have something to do after this lab you may want to bring a change of clothes. Labs will occur rain or shine unless the weather is severe. So, please bring a rain coat on rainy days. Be on time for lab as we will leave promptly. Don't be late or you will miss your ride (and receive an unexcused absence)!

Required and recommended equipment to bring to each outdoor lab:

Required:

1. Facemask – It is required to wear a facemask (N95, KN95, surgical) in the vans to reduce disease spread among your peers.
2. **Water** - bring plenty (i.e. not just 1 small bottle) as we will be outdoors in the sun for many hours.
3. Long pants, long sleeves, socks and closed toe shoes that can get wet and dirty
4. Personal medications – allergy, headache, bee sting kit if allergic to bee stings, etc.
5. Field notebook and pencils

Recommended:

5. Hat	7. Insect repellent	9. Field guides	11. Camera	13. Wet wipes or hand sanitizer
6. Sunblock	8. First aid kit	10. Lunch and snacks	12. Hand towel	14. Backpack

Field notebooks:

Detailed field notes are an extremely valuable part of natural history collections. They are used extensively for museum research, conservation, and management. For example, the distribution and abundance of plants and animals changes over time, due to natural causes as well as human-mediated impacts on the environment. By looking back at field notes from 100 years ago, we can accurately document the changing status of biodiversity in a given area.

You should maintain a field notebook in which you make notes before, during, and after field labs. Include instructions, notes, data, results, descriptions, pictures, graphs, sketches, and anything else that may act as a detailed record of all you observe or think while in the field. At first when you're learning to identify animals, you won't know what you're looking at. In that case, you should describe the animal as best you can. Once you've learned to positively identify a species, it isn't necessary to repeat the description each time you make a new account of that species. All results and observations should be written directly in the notebook and temporary notes should not be made on random pieces of paper. Mistakes in the lab notebook should be crossed out with a single line. You may find that this information is needed at a later time and if scribbled or whited out will be unreadable.

To facilitate accurate note keeping, a waterproof Write-in-the-rain notebook will be supplied for you. You should only use a pencil to write since pens generally smear if they get wet. Notebooks should be kept up to date and should be completed while in the field since recall of important details at a later date will be greatly reduced.

Each day's work should include the following labeled sections:

A. Date – I prefer the format DD MMM YYYY (e.g. 12 Jan 2012) since 1/6/12 could mean Jan 6 or June 1.
B. Times – I prefer 24 hour format (e.g. 13:00 to 15:30 h) rather than am and pm.
C. Researchers names – e.g. "Herpetology class" or for completeness/ future reference you may want to include specific names.
D. Location – Precise description and GPS coordinate if available.
    e.g. Econlockhatchee Sandhills Conservation Area, 15227 Lake Pickett Road, Orlando, Orange County, Florida 32816, Latitude 28.587672°N, Longitude 81.155791° W
E. Weather – temp, cloud cover, rain etc.
F. Activities – General description of what you did.
G. General location description (e.g. habitat, topography, important features, etc.)
H. Data – either directly written into notebook or transcribed from datasheets (indicate if transcribed).
    i. A list of individuals and species seen or captured
    ii. Time (e.g. 14:35 h) each was seen/ captured
    iii. Where each individual was located (Description and GPS point if possible)
    iv. Habitat description where encountered (e.g. In oak/pine forest w/ dense palmetto, on slash pine trunk, 1 m off ground)
    v. What it was doing or how it sounded (e.g. was eating an frog).
    vi. Measurements taken (e.g. body dimensions or weight)(If applicable)
    vii. Description (e.g. color, pattern, external parasites observed etc.)
    viii. Specimen and/or location sketches (optional)

I. Other observations and descriptions – e.g. location, equipment, or technique descriptions, sketches, or maps
J. Overall summary and comments – Good opportunity to recap the day, what went well, what did not, things to change to remember for next time, etc.

For more hints on keeping a field notebook see the attachment at the end of this syllabus.

Field lab summaries:

Two days following each outdoor lab or field trip, you will need to submit a summary. Due dates and times can be found in the schedule below.

Summaries should include:

1) a PDF copy of the appropriate pages from your field notebook; All pages should be combined into a single PDF and not individual JPGs.
2) a written summary of the day's activities. In addition to summarizing the day's activities, you should also include an evaluation of what you learned, liked, and disliked and why.

Grades will be based on organization, accuracy, clarity, thoroughness, and overall writing quality.

Lab Participation:

I expect you to have a good attitude and to be active participants in the learning process. This not only means that you are present in all labs but that you are prepared and actively work to improve your understanding of the subject. Ask questions and seek answers both alone and in conjunction with your classmates. In the field you will quickly discover that working outdoors trying to collect ecological data is a challenging endeavor that is generally enjoyable but can at times be uncomfortable, exhausting and monotonous. Please try to keep a good attitude and help your classmates whenever possible. In addition to the learning benefits that active participation will bestow upon you, it will also be reflected in your grade. Dr. Klowden and the TA will observe and evaluate your preparedness, general attitude, and enthusiasm in all labs. Your grade may be reduced if it is deemed that your participation is particularly poor.

Academic Activity Verification

To meet the registrar's requirement for documentation of your participation in this course, all faculty members are required to document students' academic activity at the beginning of each course. To document that you began this course, please complete the academic activity verification assignment in Webcourses by the deadline in the course schedule. Failure to do so may result in a delay in the disbursement of your financial aid.

Optional assignment:

This optional assignments is not extra credit however like extra credit it can boost your grade. As opposed to extra credit, which can be neutral or help your grade, this optional assignment can benefit your grade IF you do a good job but could hurt your grade if you do a poor job. I design it this way as a way to encourage you to take the assignment seriously and to do a good job and to avoid you turning in a hastily prepared assignment in hopes of getting a point or two. However, do not be dissuaded from doing this in fear of receiving poor credit. If you take the assignment seriously, you will receive full credit and it will benefit you. Just be sure to take it seriously and do a good job. If you choose to do this optional assignment, it will replace 3% of your lowest exam (lecture or lab) grade. In other words, that exam will be worth 3% less towards your final course grade and this assignment will be worth 3% towards your final course grade.

Optional assignment Instructions:

From the list at the end of the syllabus, choose 1 journal article to review. Your review should be 850-1000 words in length, no more, no less. Reviews are due by 11:59 pm on the date shown in the schedule below. You may however turn them in earlier if you choose. Reviews should be submitted via the appropriate link on Webcourses. Late assignments will not be accepted for any reason.

Summaries must be entirely your own work. All reviews will be submitted to Turn-it-in to check for plagiarism so be certain that ALL words are your own. When taking notes it is recommended to place any copied material in quotes to be sure you avoid using other people's writing in your final summary. Unless absolutely essential, quotations should be avoided. You are encouraged to discuss the articles with classmates however discussion is where it should end. In other words be sure each of you writes a completely original review. Plagiarism will not be tolerated and will result in a failing grade for the course or expulsion from UCF.

Your reviews should include 6 distinctly labeled sections:

1) *Article Citation* - An initial identification of the article (author, title of article, title of journal, year of publication).
2) *Summary* - A brief summary of the range, contents and argument of the article. You may summarize section by section but since the review is short it may better to pick up the main themes only. This section should not normally take up more than 1/3 of the total review.
3) *Discussion* - A critical discussion of 2-3 key issues raised in the article. This section is the core of your review. In this portion you should discuss the originally assigned article including what was particularly well done and what was not (e.g. methods or conclusions you disagree with or think were analyzed poorly and why, what was explained poorly, what is missing, etc.). Use other, perhaps more recent, journal articles to support your arguments for what you liked or didn't like and why. For example you might say that a more recent study contradicts certain findings, or that methods they used were improper and that another study addressed this more appropriately, or that the conclusions they drew were inappropriate and that another study highlights this incongruity. Be sure to make clear the author's own argument before you criticize and evaluate it and remember that it is seldom useful to criticize a writer for not doing something they never intended to do.

4) *Final evaluation* – A brief discussion of the overall contribution the article has made to your understanding of the topic (and maybe its importance to the development of knowledge in this particular area or discipline, setting it in the context of other writings in the field).
5) *Additional citations* – Citations of other journal articles referenced in your discussion.
6) *Word count* - Number of words from your summary section (Can easily be automatically counted in Microsoft Word).

Grades:

Your course grade should reflect your abilities as an ecologist and herpetologist. While a single exam or assignment is not necessarily a good estimator of your ability, a variety of exams and other evaluative tools (including the professional opinion of your instructors) will provide an accurate assessment. Grades do not necessarily measure how hard you've worked, how much you've learned, or even how much you've matured as a biologist, and they certainly do not reflect your value as a person. In college in general, and in this class in particular, there is much to be learned outside the classroom (e.g. in departmental seminars) and you will need to balance your personal goals and aspirations versus grades per se.

Your final grade will be determined by your performance as follows:

Performance Evaluation:

		Proportion of grade
Lecture exams:		= 50%
	Best = 20%	
	2nd best = 17%	
	Worst = 13%	
Lab exams:		= 30%
	Best = 17%	
	Worst = 13%	
Lab quizzes:	7 x 2%	= 14%
Field lab summaries*:	4 x 1.5%	= 6%
		100%

*Assignments are due by 11:59 pm. Late assignments will incur a penalty of 10% for each late day.

Grading Scale

A	93.0 – 100%	B+	87.0 - 89.9%	C+	77.0 - 79.9%	D+	67.0 - 69.9%	F	0 - 59.9%
A-	90.0 - 92.9%	B	83.0 – 86.9%	C	70.0 - 76.9%	D	63.0 – 66.9%		
		B-	80.0 - 82.9%			D-	60.0 - 62.9%		

For additional assistance in calculating your grade see: https://thegradecalculator.com/

Final Grade Rounding Policy:

The overall semester grade will not be rounded. Either you have the grade or you don't. In other words, a 79.99 is still a 'C+'. No matter where I set the limit, there will ALWAYS be someone who is close to the next grade. As I strive for consistency and fairness there will be no exceptions to this policy and no extra credit or other adjustments will be made.

Study suggestions:

This is a fast paced and detail rich class. To succeed it is essential that you stay caught up by reading, attending lectures, and studying the material daily. Students who prepare for the exams by simply attending lectures and reading their notes several times are unlikely to succeed on the exams. To succeed it is best to make your learning more active and focused. Active learning involves practicing the same skills you must perform on exams. In other words, quick recall of the appropriate information and applying it. To do this you should:

A) Treat studying like it's a job. Set a schedule, show up for work, pay attention (i.e. no multitasking) while on the job. A general rule of thumb is 2-3 hours for every hour spent in class.
B) Keep up with readings and assignments. Students who keep up tend to do much better in an online course than those who do not.
C) Consistently meet with the professor and TA to address questions and clarify concepts.
D) **Practice by Self-Testing**. Write your own essay style study questions: If you are like most people, you do not remember what you read/hear in sufficient detail to then be tested. However, it may be unclear which details you remember/understand and which you do not. The point in study questions is to figure out prior to an exam what you don't understand or have trouble remembering and work on that material. You do not want to realize during an exam that you don't understand something as well as you thought you did as it is now too late! For methods on how to most effectively write questions and use these questions, be sure to consult the study tips section on Webcourses.

Academic Integrity:

Why should I care?

Beyond moral considerations, academic dishonesty diminishes the quality and value of a UCF education. If prospective employers, graduate schools, etc. have a poor perception of UCF, it undermines the value of your education and decreases your likelihood of advancement. If you are aware of academic dishonesty it is important to report it as quickly as possible. Otherwise you risk devaluation of your degree and hard work. Non-reporting is also considered academic dishonesty.

What should you do if you are aware of another student cheating?

You should contact Dr. Klowden <gklowden@ucf.edu> in private as soon as possible after the incident has occurred. Your reporting will remain confidential.

What is considered academic dishonesty?

Students should familiarize themselves with UCF's Rules of Conduct at http://osc.sdes.ucf.edu/process/roc.
According to Section 1, "Academic Misconduct," students are prohibited from engaging in:

- *Unauthorized assistance*: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.

- *Communication to another through written, visual, electronic, or oral means*: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.

- *Commercial Use of Academic Material*: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.

- *Falsifying or misrepresenting the student's own academic work*.

- *Plagiarism*: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.

    - Turning in someone else's work as your own.
    - Copying words or ideas from someone else without giving credit.
    - Failing to put a quotation in quotation marks.
    - Giving incorrect information about the source of the information.
    - Changing words but copying the sentence structure of a source.
    - Copying so many phrases from a source that it makes up a substantial part of your work, even if you give credit.

  Plagiarized work is easily detected and university regulations on academic misconduct will be strictly enforced.
- *Multiple Submissions*: Submitting the same academic work more than once without written permission of the instructor.

- *Helping another violate academic behavior standards*.

For more information about Academic Integrity, consult the International Center for Academic Integrity http://academicintegrity.org

For more information about plagiarism and misuse of sources, see "Defining and Avoiding Plagiarism: The WPA Statement on Best Practices" http://wpacouncil.org/node/9

Unauthorized Use of Websites and Internet Resources

There are many websites claiming to offer study aids to students, but in using such websites, students could find themselves in violation of academic conduct guidelines. These websites include (but are not limited to) Quizlet, Course Hero, Chegg Study, and Clutch Prep. UCF does not endorse the use of these products in an unethical manner, which could lead to a violation of our University's Rules of Conduct. They encourage students to upload course materials, such as test questions, individual assignments, and examples of graded material. Such materials are the intellectual property of instructors, the university, or publishers and may not be distributed without prior authorization. Students who engage in such activity are in violation of academic conduct standards and could face course and/or University penalties. Please let me know if you are uncertain about the use of a website so I can determine its legitimacy. You are permitted to create your own study guides (e.g. Quizlets) but you are not permitted to distribute these to anyone except your current herpetology classmates.

If you need assistance, I recommend you visit me during my office hours and make use of the Student Academic Resource Center (SARC), the University Writing Center (UWC), the Math Lab, etc.

If you are aware of others engaging in such activity or find materials from my classes posted on these sites, I would appreciate your bringing this to my attention. We all play a part in creating a course climate of integrity.

Unauthorized Use of Technology for Graded Work

If you were in a classroom setting taking a quiz, would you ask the student sitting next to you for an answer to a quiz or test question? The answer should be no. This also applies to graded homework, quizzes, tests, etc. Students are not allowed to use GroupMe, WhatsApp, or any other form of technology to exchange course material associated with a graded assignment, quiz, test, etc. when opened on Webcourses. The completion of graded work in an online course should be considered a formal process: Just because you are not in a formal classroom setting being proctored while taking a quiz or test does not mean that the completion of graded work in an online course should not be treated with integrity.

The following are some examples of what is considered academic misconduct. This is certainly not an all-inclusive list and there are many other possible ways to be in violation.

- Taking a screen shot of an online assignment, posting it to GroupMe or WhatsApp, and asking for assistance.
- Answering, giving advice, assistance, or suggestions on how to complete an online assignment or assessment that is posted to GroupMe or WhatsApp.
- The use of outside assistance from another student or by searching the internet, Googling for answers, use of websites such as Quizlet, Course Hero, Chegg Study, etc.
- Gathering to take an online quiz or test with others and sharing answers in the process.

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, The Golden Rule <http://goldenrule.sdes.ucf.edu/docs/goldenrule.pdf>. UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see http://goldenrule.sdes.ucf.edu/zgrade.

Course Accessibility Statement:

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) http://sas.sdes.ucf.edu/ (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

Campus Safety Statement

Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at <http://emergency.ucf.edu/emergency_guide.html>.
- Students should know the evacuation routes from their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <https://ehs.ucf.edu/automated-external-defibrillator-aed-locations>.
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video https://youtu.be/NIKYajEx4pk.

COVID-19

COVID-19 can affect anyone, and the disease can cause symptoms ranging from mild to very severe. We know that certain things can make people more likely to get very sick with COVID-19. We also know that certain settings and activities can make you more likely to get infected with the virus that causes COVID-19.

Understanding the risk of COVID-19 for yourself and those around you can help you make informed decisions to keep yourself and other people safe and healthy. There are many ways your actions can help protect you, your household, and your community from severe illness from COVID-19. In addition to basic health and hygiene practices, like handwashing, to protect yourself and those around you, it is recommend that you:

- Stay Up to Date with COVID-19 Vaccines
- Wear an N95 or surgical grade mask when indoors or in crowded areas
- Get Tested for COVID-19 If Needed
- Follow Recommendations for What to Do If You Have Been Exposed
- Stay Home If You Have Suspected or Confirmed COVID-19
- Seek Treatment If You Have COVID-19 and Are at High Risk of Getting Very Sick
- Avoid Contact with People Who Have Suspected or Confirmed COVID-19

COVID-19 vaccines help your body develop protection from the virus that causes COVID-19. Although vaccinated people sometimes get infected with the virus that causes COVID-19, staying up to date on COVID-19 vaccines significantly lowers the risk of getting very sick, being hospitalized, or dying from COVID-19. CDC recommends that everyone who is eligible get a booster and stay up to date on their COVID-19 vaccines.

Notifications in Case of Changes to Course Modality

Depending on the course of the pandemic during the semester, the university may make changes to the way classes are offered. If that happens, please look for announcements or messages in Webcourses@UCF or Knights email about changes specific to this course.

In Case of Faculty Illness

If the instructor falls ill during the semester, there may be changes to this course, including having a backup instructor take over the course. Please look for announcements or mail in Webcourses@UCF or Knights email for any alterations to this course.

Deployed Active-Duty Military Students:

Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

UCF Cares:

During your UCF career, you may experience challenges including struggles with academics, finances, or your personal well-being. UCF has a multitude of resources available to all students. Please visit UCFCares.com if you are seeking resources and support, or if you are worried about a friend or classmate. Free services and information are included for a variety of student concerns, including but not limited to alcohol use, bias incidents, mental health concerns, and financial challenges. You can also e-mail ucfcares@ucf.edu with questions or for additional assistance. You can reach a UCF Cares staff member between 8 a.m. and 5 p.m. by calling 407-823-5607.
If you are in immediate distress, call 407-823-2811 to speak with a counselor at Counseling and Psychological Services 24/7 or call 911.

Knights Pantry

The Knights Helping Knights Pantry is committed to serving UCF students by providing basic needs including food, clothing, and personal hygiene items to foster continued academic success and increase retention for students in need. Access to the Knights Pantry is reserved for UCF Students who present a valid Student ID upon entry. Students are limited to 5 food items per day. There is currently no limit for toiletries or clothing.

Location: Ferrell Commons, Room 7H - 101 // Phone: 407-823-3663 // Hours: Mon-Fri: 10am-6pm, Sat. 12pm-5pm

The Knights Pantry relies on the support of students, faculty, and staff. Donations of food, toiletries, or clothing (business professional or casual) can be dropped off at the Pantry in Ferrell Commons or to one of our many donation boxes around campus. Campus donation boxes can be found on the UCF Mobile app maps. In addition to tangible donations, the Knights Panty accepts monetary donations to ensure food is available when demand is high. Also, the Pantry would not be able to keep its doors open without the help of student volunteers, so consider volunteering.

"I'm a great believer in luck, and I find the harder I work the more I have of it."
-Thomas Jefferson

SCHEDULE (subject to change as necessary)

Week	Day / Date	Lecture and Lab Topics	Chapter	Exam, quiz, assignment due
1	Tu JAN 10 and Th JAN 12	Lecture - Introduction - Principles of Systematics - Origin and Relationships of Chordates and Vertebrates - Origin and Relationships of Tetrapods Lab - None (BUT there IS lecture at 11:30)	1 2	
2	Tu JAN 17 and Th JAN 19	Lecture - Origin of Amphibians - What is an Amphibian? - Unifying Characteristics - Origin and Relationships of Amniotes Lab - Frog Diversity	2 2 3	Lab quiz 1 – Frogs
3	Tu JAN 24 and Th JAN 26	Lecture - Origin and Relationships of Nonavian Reptiles (Diapsida (Lepidosauria and Archosauria)) Lab - Caecilian & Salamander Diversity	2 4	Lab quiz 2 – Caecilian/Salamander
4	Tu JAN 31 Th FEB 2	-- Lab - Amphibian Diversity Review	-- --	**Lecture exam 1** Lab quiz 3 – Amphibians
5	Tu FEB 7 Th FEB 9	Lecture - Body Support and Locomotion --	10 --	 **Lab exam 1 (Amphibians & Calls)**
6	Tu FEB 14 and Th FEB 16	Lecture - Integument - Water and Temperature Regulation Lab - Field Trip 1	3, 4 6	 FT summary 1 (due 2/18, 11:59p)
7	Tu FEB 21 and Th FEB 23	Lecture - Gas Exchange, Circulation, and Metabolism Lab - Tuatara & lizard diversity	7	 Lab quiz 4 – Lizards
8	Tu FEB 28 and Th MAR 2	Lecture - Sensory Systems Lab - Snake Diversity	13	 Lab quiz 5 – Snakes
9	Tu MAR 7 Th MAR 9	-- Lab - Field Trip 2		**Lecture exam 2** FT summary 2 (due 3/11, 11:59p)
	MAR 13-18	Spring Break - No Classes	--	--
10	Mo MAR 20	 **World Frog Day!** 		
	Tu MAR 21 and Th MAR 23	Lecture - Communication Lab - Turtle and Crocodilian Diversity	2, 3, 4, 13, 15	 Lab quiz 6 – Turtles & crocodilians
11	Tu MAR 28 and Th MAR 30	Lecture – Reproduction, Mating Systems and Sexual Selection Lab - Reptile review	8, 9, 14	 Lab quiz 7 - Reptiles
12	Tu APR 4 Th APR 6	Lecture - Feeding mechanisms --	11 --	 **Lab exam 2 (Non-avian reptiles)**
13	Tu APR 11 and Th APR 13	Lecture - Diets, Foraging, Predators, and Defense Lab - Field Trip 3	15 --	 Lab summary 3 (due 4/15, 11:59p)
14	Tu APR 18 and Th APR 20	Lecture - Matthew Atkinson Disease Ecology and Pathogens of Herpetofauna Lecture – Graduate student – Topic TBA Lab - Field Trip 4	-- --	Optional EC Due (4/17, 11:59 pm) Lab summary 4 (due 4/22, 11:59p)
Finals	Th APR 27 - 10:00am	--	--	**Lecture Exam 3**
	May 7 - 13	**Amphibian Week 2023** https://parcplace.org/education/amphibianweek2023		

Appendices:

Keeping a Field Notebook
Excerpt from: “Practical Field Ecology: A Project Guide” by C. Philip Wheater, Penny A. Cook, James R. Bell

Use a field notebook to write down data, ideas, observations, tentative conclusions and hypotheses as you do your fieldwork to create an immediate and faithful history of your research. Produce comprehensive, clearly organized notes as a reference and so that you can reconstruct the research time-line and follow the development of your thoughts and ideas. Although you may use other collection sheets (e.g. pre-printed data collection forms to ensure data are collected consistently in different locations and at different times), your field notebook should provide the context for data col1eetion and help resolve ambiguities or inconsistencies when preparing for analysis. After data analysis, reference to your notebook may generate further hypotheses and suggest further lines of enquiry.

What should be recorded?

The first page should include contact details in case of loss, the subject of your research and the start and end dates of the period covered by that notebook. Include any conventions used, for example 'All times are recorded as local time'. Number the pages and ideally add a contents table to make searching for information easier. Write on the right hand page only so the left hand page can be used for ideas generated by reading about similar observations or relevant research papers. Leave a few lines between observations for comments to be inserted later (e g 'No bark damage here 23 June, see p39'). Add a 2 cm margin to write the time, location (e.g. from a GPS reading) or other identifying labels. Create lists of codes, acronyms, specialist terminology, etc. at the back include any emergency numbers (e.g. those of field buddies). Other useful notes about equipment (how to use, limitations of instruments etc.) and any' numerical information you might require in the field (simple formulae for calculations, random numbers, etc.) can also be added here.

Before starting each work day, write down the date, weather, general location, nature of the habitat and purpose of the day's work. Write down any changes in weather or habitat that occur during the day, for example 'At 15.00 hours snow began to fall and visibility was reduced to 20 m’. When observing behavior note the sampling method, how animals were chosen for observation and the recording method (e g. whether you noted all occurrences or used a time-sampled method). If animals or start times are chosen at random, note how this was done.

Note the type and model number of any equipment (e.g. GPS receiver type Garmin 12). Some instruments need calibrating at intervals, so record the time of calibration and any raw data and subsequent calculations so that any arithmetic errors can be identified and corrected later. Use your notebook to create rough species accumulation curves, etc so you can tell when you should stop collecting data. Along with observations, note the time and if possible, the location from a GPS receiver. Although notes should be made at the time observations are made, it may be difficult to observe and write at the same time, but If you do rely on memory. you should note this. Write exactly what you see or hear, for example when describing behaviour do not ascribe a function to it in the guise of a description (i.e. do not write that a goose was vigilant when you mean that the bird was in a standing posture with an e1ongated neck and raised head.

Sketches enhance any photographs you take of your study sites and you will have a sketch available in your notebook the next time you visit the area. Sketches can be added subsequently (annotating any changes with the date of the amendment). The value of sketches can be increased by explanatory labels. A careful sketch can aid species identification and will help to jog your memory when you encounter a species in the future; such sketches are more valuable if labeled with the diagnostic feature(s) you use (e.g. 'two spots on forewing' or 'sepals reflexed'). Landscapes change over time and maps may not reflect this. In some cases no map of a suitable scale may be available and a sketch map can be made using compass and tape, or by pacing out distances using a pedometer. This may be adequate to note the locations of those animals or plants of interest.

It is also useful to record any notes and actions from supervisory team meetings both as a reminder and to ensure that any designated actions have been completed as planned.

Journal Articles for OPTIONAL Assignment - Assignment details are above.

Ahlberg, P. E., and A. R. Milner. 1994. The origin and early diversification of tetrapods. Nature 368: 507-514.

Bridges, C. M., and R. D. Semlitsch. 2001. Genetic variation in insecticide tolerance in a population of southern leopard frogs (Rana sphenocephala): implications for amphibian conservation. Copeia 2001: 7-13.

Bull, J. J. and R. C. Vogt. 1997. Temperature-dependent sex determination in turtles. Science 206:1186-1188.

Grant, Bruce W. 1990. Trade-offs in activity time and physiological performance for thermoregulating desert lizards, *Sceloporus merriami*. Ecology 71: 2323-2333.

Halliday, T. R. and P. A. Verrell. 1988. Body size and age in amphibians and reptiles. Journal of Herpetology 22:253-265.

Hedges, S. B., and Poling, L. L. 1999. A molecular phylogeny of reptiles. Science 283:998-1001.

Jackson, D. C. 1985. Respiration and respiratory control in the green turtle, Chelonia mydas. Copeia 1985:664-671.

Karl, S. A., and B. Bowen. 1999. Evolutionary significant units versus geopolitical taxonomy: molecular systematics of an endangered sea turtle (genus Chelonia). Conservation Biology 13: 990-999.

Karns, D. R. 1992. Effects of acidic bog habitats on amphibian reproduction in a northern Minnesota peatland. Journal of Herpetology 26:401-412.

Lawson, R., J. B. Slowinski, B. I. Crother and F. T. Burbrink. 2005. Phylogeny of the Colubroidea (Serpentes): New evidence from mitochondrial and nuclear genes. Molecular Phylogenetics and Evolution 37:581-601.

Lorch, J. M., et al. 2016. Snake fungal disease: An emerging threat to wild snakes. Philosophical Transactions of the Royal Society B: Biological Sciences, 371(1709): 20150457.

Losos, J. B. 1990. Ecomorphology, performance capability, and scaling of West Indian Anolis lizards: An evolutionary analysis. Ecological Monographs 60: 369-388.

McCollum, S.A. and J.D. Leimberger. 1997. Predator-induced morphological changes in an amphibian: predation by dragonflies affects tadpole shape and color. Oecologia 109:615-621.

Moon, B. R. 2001. Muscle physiology and the evolution of the rattling system in rattlesnakes. Journal of Herpetology 35:497-500.

Niewiarowski, P. H. and W. Roosenburg. 1993. Reciprocal transplant reveals sources of variation in growth of the lizard Sceloporus undulatus. Ecology 74:1992-2002.

Radder, R. S. and R. Shine. 2007. Why do female lizards lay their eggs in communal nests? Journal of Animal Ecology 76:881-887.

Rhen, T. and J. W. Lang. 1995. Phenotypic plasticity for growth in the common snapping turtle: effects of incubation temperature, clutch and their interaction. American Naturalist 146:726-747.

Rollins-Smith, L. A. 1998. Metamorphosis and the amphibian immune system. Immunological Reviews, 166(1):221–230.

Roth, G., U. Dicke, and K. Nishikawa. 1992. How do ontogeny, morphology, and physiology of sensory systems constrain and direct the evolution of amphibians? American Naturalist 139: S105-S124.

Scheele, B. C., et al. 2019. Amphibian fungal panzootic causes catastrophic and ongoing loss of biodiversity. Science 363(6434):1459-1463.

Secor, S. M. and J. Diamond. 1998. A vertebrate model of extreme physiological regulation. Nature 395:659-662.

Shine, R. 1995. A new hypothesis for the evolution of viviparity in reptiles. American Naturalist 145:809-823.

Shine, R. 2004. Does viviparity evolve in cold climate reptiles because pregnant females maintain stable (not high) body temperatures? Evolution 58:1809-1818.

Shine, R. and E.L. Charnov. 1992. Patterns of survival, growth and maturation in snakes and lizards. The American Naturalist 139; 1257-1269.

Shine, R. and P. S. Harlow. 1996. Maternal manipulation of offspring phenotypes via nest-site selection in an oviparous lizard. Ecology 77:1808-1817.

Shine, R. and J. B. Iverson. 1995. Patterns of survival, growth and maturation in turtles. Oikos 72: 343-348.

Shine, R. and T. Madsen. 2000. Silver spoons and snake body sizes: prey availability early in life influences long-term growth rates of free ranging pythons. Journal of Animal Ecology 69: 952-958.

Stamps, J. and S. Tanaka. 1981. The influence of food and water on growth rates in a tropical lizard (Anolis aeneus). Ecology 62:33-40.

Vitt, L. and T. C. Avila-Pires. 1998. Ecology of two sympatric species of Nestricurus in the Western Amazon of Brazil. Copeia 1998:570-582.

Vitt, Laurie J., Eric R. Pianka, William E. Cooper, Jr., and Kurt Schwenk. 2003. History and the global ecology of squamate reptiles. The American Naturalist 162:44-60.

Warner, D. A. and R. Shine. 2008. The adaptive significance of temperature-dependent sex determination in a reptile. Nature 451:566-568.

Yap, T. A., et al. 2017. Batrachochytrium salamandrivorans and the Risk of a Second Amphibian Pandemic. EcoHealth, 14(4):851–864.

Zardoya, R., and M. Axel. 2001. On the origin of and phylogenetic relationships among living amphibians. Proceedings of the National Academy of Sciences of the United States of America 98:7380-7383.

Herpetological Literature:
For a great list of herpetological literature check out http://www.si.edu/encyclopedia_si/nmnh/reptshrt.htm

Below are some important herpetological books (available at UCF library or via interlibrary loan).

- Duellman, W. E. and L. Trueb. 1986. Biology of the Amphibians. Johns Hopkins, U.S.A.
- Duellman, W. E. (ed). 1999. Patterns of Distribution of Amphibians. Johns Hopkins, U.S.A.
- Heyer, W. R., M. A. Donnelly, R. W. McDiarmid, L. C. Hayek, and M. S. Foster (eds). 1994. Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians. Smithsonian Institution, U.S.A.
- McDiarmid, R. W., M. S. Foster, C. Guyer, J. W. Gibbons, and N. Chernoff (eds). 2012. Reptile Biodiversity: Standard Methods for Inventory and Monitoring. University of California Press, U.S.A.
- Stebbins, R. C., and N. W. Cohen. 1997. A Natural History of Amphibians. Princeton University Press, U.S.A.

Herpetological Journals:
Articles on herpetological subjects appear in numerous journals including broad scientific journals such as Science, Nature, or American Naturalist, journals more focused on ecological subjects such as Trends in Ecology & Evolution (TREE), Functional Ecology, Journal of Biogeography, Conservation Biology, Journal of Tropical Ecology, or the Journal of Wildlife Ecology and regional journals such as Florida Field Naturalist or Southeastern Naturalist.

Journals dedicated to reptiles and amphibians include: *Copeia, *Herpetologica, Herpetological Conservation & Biology, *Herpetological Monographs, *Journal of Herpetology, *Herpetological Review (a newsletter journal),
*Amphibia-Reptilia, Amphibian and Reptile Conservation, Alytes, Salamandra, Herpetological Journal, Bibliotheca Herpetologica, and several others. *Indicates that our library maintains a subscription. Amphibian and Reptile Conservation and Herpetological Conservation & Biology are free through open access online. All of the other journals are available through the UCF library via interlibrary loan. The journals are produced by different herpetological societies. Consider joining one of the societies and/or attending their annual meetings if you are serious about herpetology. Societies have discounted rates for students.

United States Herpetological Societies:
- American Society of Ichthyologists & Herpetologists (ASIH)(founded in 1913)
- The Herpetologists' League (HL)(founded in 1946)
- Society for the Study of Amphibians & Reptiles (SSAR)(founded in 1958)
- International Herpetological Society (founded in 1969)
- Partners in Reptile and Amphibian Conservation (PARC)

Florida Herpetological Societies:
- Central Florida Herpetological Society (Orlando)
- Calusa Herpetological Society
- Jacksonville Herpetological Society
- Miami Herpetological Society
- Northwest Florida Herpetological Society
- Sawgrass Herpetological Society
- South Florida Herpetological Society
- Suncoast Herpetological Society

Other Herpetological Resources:
- Amphibian Species of the World <http://research.amnh.org/herpetology/amphibia/index.php>
- The Reptile Database <http://www.reptile-database.org/>
- Checklist & Atlas of Florida's Reptiles and Amphibians <http://www.flmnh.ufl.edu/herpetology/florida-amphibians-reptiles/checklist-atlas/>

Herpetological Conferences:
- 2023 Annual Southeast PARC meeting – February 23rd - 26th, 2023 at the YMCA Blue Ridge Assembly in Black Mountain, North Carolina
  - PARC = Partners in Amphibian Conservation
  - https://parcplace.org/event/southeast-parc-annual-meeting-2/
- Joint Meeting of Ichthyologists and Herpetologists – July 12-16, 2023 in Norfolk, VA
  - Annual joint meeting between the American Society of Ichthyologists (ASIH), Herpetologists League (HL), and Society for the Study of Amphibians and Reptiles (SSAR)
- Annual Herpetology Conference - March, Gainesville, Florida
  - The Annual Herpetology Conference is generally held in March. However, due to COVID it was not held in 2021 or 2022 and does not appear to be scheduled for 2023. Hopefully it will resume for 2024.
- 10th World Congress of Herpetology, August 2024, Kuching, Malaysia

AMPHIBIANS AND REPTILES OF FLORIDA

(from Krysko, K. L., K. M. Enge, and P. E. Moler. 2011. Atlas of Amphibians and Reptiles in Florida. Final Report, Project Agreement 08013, Florida Fish and Wildlife Conservation Commission, Tallahassee, USA. With recent additions.) + Recent changes

Salamanders (Caudata)

Mole Salamanders (Ambystomatidae)

Ambystoma bishopi, Reticulated flatwoods salamander
Ambystoma cingulatum, Flatwoods salamander
Ambystoma opacum, Marbled salamander
Ambystoma talpoideum, Mole salamander
Ambystoma tigrinum, Tiger salamander

Amphiumas, Congo eels (Amphiumidae)

Amphiuma means, Two-toed amphiuma
Amphiuma pholeter, One-toed amphiuma

Lungless Salamanders (Plethodontidae)

Desmognathus apalachicolae, Apalachicola dusky salamander
Desmognathus auriculatus, Southern dusky salamander
Desmognathus cf. conanti, Spotted dusky salamander
Desmognathus monticola, Seal salamander
Eurycea cirrigera, Southern two-lined salamander
Eurycea guttolineata, Three-lined salamander
Eurycea quadridigitata, dwarf salamander
Eurycea sphagnicola, Bog dwarf salamander
Eurycea wallacei, Georgia Blind salamander
Hemidactylium scutatum, Four-toed salamander
Plethodon grobmani, Slimy salamander
Pseudotriton montanus, Mud salamander
Pseudotriton ruber, Red salamander
Stereochilus marginatus, Many-lined salamander

Mudpuppies, Olms (Proteidae)

Necturus cf. beyeri, Gulf Coast waterdog

True Salamanders, Newts (Salamandridae)

Notophthalmus perstriatus, Striped newt
Notophthalmus viridescens, Eastern newt

Sirens (Sirenidae)

Pseudobranchus axanthus, Southern swarf siren
Pseudobranchus striatus, Northern dwarf siren
Siren intermedia, Eastern Lesser siren
Siren lacertina complex, Greater siren
Siren reticulata, Reticulated siren

Frogs (Anura)

True Toads (Bufonidae)

Anaxyrus fowleri, Fowler's toad
Anaxyrus quercicus, Oak toad
Anaxyrus terrestris, Southern toad
Rhinella marina, Cane toad [NON-NATIVE]

Rain Frogs (Eleutherodactylidae)

Eleutherodactylus coqui, Common coquí frog [NON-NATIVE]
Eleutherodactylus planirostris, Greenhouse frog [NON-NATIVE]

Treefrogs (Hylidae)

Acris crepitans, Northern cricket frog
Acris gryllus, Southern cricket frog
Hyla andersonii, Pine barrens treefrog
Hyla avivoca, Bird-voiced treefrog
Hyla chrysocelis, Cope's gray treefrog
Hyla cinerea, Green treefrog
Hyla femoralis, Pine woods treefrog
Hyla gratiosa, Barking treefrog
Hyla squirella, Squirrel treefrog
Litoria caerulea, Australian green treefrog [NON-NATIVE]

Osteopilus septentrionalis, Cuban treefrog [NON-NATIVE]
Pseudacris crucifer, Spring peeper
Pseudacris feriarum, Upland chorus frog
Pseudacris nigrita, Southern chorus frog
Pseudacris ocularis, Little grass frog
Pseudacris ornata, Ornate chorus frog

Narrow Mouth Toads (Microhylidae)
Gastrophryne carolinensis, Eastern narrowmouth toad

"True" Frogs (Ranidae)
Rana capito, Gopher frog
Rana catesbeiana, Bullfrog
Rana clamitans, Green frog, Bronze frog
Rana grylio, Pig frog
Rana heckscheri, River frog
Rana okaloosae, Florida bog frog
Rana sphenocephala, Southern leopard frog
Rana virgatipes, Carpenter frog

Nearctic Spadefoot Toads (Scaphiopodidae)
Scaphiopus holbrookii, Eastern spadefoot toad

Turtles (Chelonia)

Austro-American Side-Neck Turtles (Chelidae)
Chelus fimbriatus, Mata mata [NON-NATIVE]

Marine Turtles (Cheloniidae)
Caretta caretta, Loggerhead sea turtle
Chelonia mydas, Green sea turtle
Eretmochelys imbricata, Atlantic hawksbill sea turtle
Lepidochelys kempii, Kemp's Ridley sea turtle

Snapping Turtles (Chelydridae)
Chelydra serpentina, Snapping turtle
Macrochelys apalachicolae, Apalachicola Alligator snapping turtle
Macrochelys suwanniensis, Suwannee Alligator snapping turtle
Macrochelys temminckii, Alligator snapping turtle

Leatherback (Dermochelyidae)
Dermochelys coriacea, Leatherback sea turtle

Pond and Marsh Turtles (Emydidae)
Chrysemys dorsalis, Southern painted turtle [NON-NATIVE]
Clemmys guttata, Spotted turtle
Deirochelys reticularia, Chicken turtle
Graptemys barbouri, Barbour's map turtle
Graptemys ernsti, Escambia map turtle
Graptemys flavimaulata, Yellow-Blotched map turtle [NON-NATIVE]
Graptemys pseudogeographica, False map turtle
Graptemys pulchra, Alabama map turtle [NON-NATIVE]
Malaclemys terrapin, Diamondback terrapin
Pseudemys concinna, River cooter
Pseudemys nelsoni, Florida redbelly cooter [NON-NATIVE in part]
Pseudemys peninsularis, Peninsula cooter [NON-NATIVE in part]
Pseudemys suwanniensis, Suwannee cooter
Terrapene carolina, Eastern box turtle
Trachemys scripta, Pond slider [NON-NATIVE in part]
Trachemys terrapen, Jamaican slider [NON-NATIVE]

Musk and Mud Turtles (Kinosternidae)
Kinosternon baurii, Striped mud turtle
Kinosternon subrubrum, Mud turtle
Staurotypus salvinii, Pacific Coast giant musk turtle [NON-NATIVE]
Sternotherus minor, Loggerhead musk turtle
Sternotherus odoratus, Eastern mMusk turtle

Madagascan and South American River Turtles (Podocnemidae)
Podocnemis unifilis, Yellow-spotted Amazon River turtle [NON-NATIVE]

Tortoises (Testudinidae)
Gopherus polyphemus, Gopher tortoise

Softshell Turtles (Trionychidae)
Apalone ferox, Florida softshell [NON-NATIVE in part]
Apalone mutica, Smooth softshell
Apalone spinifera, Spiny softshell

Crocodilians (Crocodylia)

Alligators and Caimans (Alligatoridae)
Alligator mississippiensis, American alligator
Caiman crocodilus, Spectacled caiman [NON-NATIVE]

Crocodiles (Crocodylidae)
Crocodylus acutus, American crocodile

Worm Lizards (Amphisbaenians)

Florida Worm Lizard (Rhineuridae)
Rhineura floridana, Florida worm lizard

Lizards (Sauria)

Dragon Lizards (Agamidae)
Agama agama, African rainbow lizard [NON-NATIVE]
Calotes mystaceus, Indo-Chinese forest lizard [NON-NATIVE]
Calotes cf. versicolor, Variable bloodsucker [NON-NATIVE]
Leiolepis belliana, Butterfly lizard [NON-NATIVE]
Leiolepis rubritaeniata, Red-banded butterfly lizard [NON-NATIVE]

Glass Lizards and Alligator Lizards (Anguidae)
Ophisaurus attenuatus, Slender glass lizard
*Ophisaurus compressu*s, Island glass lizard
Ophisaurus mimicus, Mimic glass lizard
Ophisaurus ventralis, Eastern glass lizard

Chameleons (Chamaeleonidae)
Chamaeleo calyptratus, Veiled chameleon [NON-NATIVE]
Furcifer oustaleti, Oustalet's chameleon [NON-NATIVE]
Furcifer pardalis, Panther chameleon [NON-NATIVE]

Helmeted Lizards (Corytophanidae)
Basiliscus vittatus, Brown basilisk [NON-NATIVE]

Anoles (Dactyloidae)
Anolis carolinensis, Green anole
Anolis chlorocyanus, Hispaniolan green anole [NON-NATIVE]
Anolis cristatellus, Puerto Rican crested anole [NON-NATIVE]
Anolis cybotes, Large-headed anole [NON-NATIVE]
Anolis distichus, Bark anole [NON-NATIVE]
Anolis equestris, Knight anole [NON-NATIVE]
Anolis garmani, Jamaican giant anole [NON-NATIVE]
Anolis porcatus, Cuban green anole [NON-NATIVE]
Anolis sagrei, Cuban brown anole [NON-NATIVE]
Anolis trinitatis, Saint Vincent's bush anole [NON-NATIVE]

Typical Geckos (Gekkonidae)
Chronodatylus bibronii, Bibron’s gecko [NON-NATIVE]
Gekko badenii, Golden gecko [NON-NATIVE]
Gekko gecko, Tokay gecko [NON-NATIVE]
Hemidactylus frenatus, Common house gecko [NON-NATIVE]
Hemidactylus garnotii, Indo-Pacific house gecko [NON-NATIVE]
Hemidactylus mabouia, Wood slave [NON-NATIVE]
Hemidactylus platyurus, Asian flat-tailed house gecko [NON-NATIVE]
Hemidactylus turcicus, Mediterranean gecko [NON-NATIVE]
Lepidodactylus lugubris, Mourning gecko [NON-NATIVE]

Phelsuma grandis, Madagascar giant day gecko [NON-NATIVE]
Phelsuma laticauda, Gold dust day gecko [NON-NATIVE]

Iguanas (Iguanidae)
Ctenosaura pectinata, Mexican spinytail iguana [NON-NATIVE]
Ctenosaura similis, Black spinytail iguana [NON-NATIVE]
Cyclura cornuta, Rhinoceros iguana [NON-NATIVE]
Iguana iguana, Green iguana [NON-NATIVE]

Curly-Tailed Lizards (Leiocephalidae)
Leiocephalus carinatus, Northern curlytail lizard [NON-NATIVE]
Leiocephalus schreibersii, Red-sided curlytail lizard [NON-NATIVE]

North American Spiny Lizards (Phrynosomatidae)
Phrynosoma cornutum, Texas horned lizard [NON-NATIVE]
Sceloporus undulatus, Eastern fence lizard
Sceloporus woodi, Florida scrub lizard
Leaf-Toed Geckos (Phyllodactylidae)
Tarentola annularis, Ringed wall gecko [NON-NATIVE]
Tarentola mauritanica, Moorish gecko [NON-NATIVE]

Skinks (Scincidae)
Chalcides ocellatus, Ocellated skink [NON-NATIVE]
Eutropis multifasciata, Brown mabuya [NON-NATIVE]
Plestiodon anthracinus, Coal skink
Plestiodon egregius, Mole skink
Plestiodon fasciatus, Common five-lined skink
Plestiodon inexpectatus, Southeastern five-lined skink
Plestiodon laticeps, Broadhead skink
Plestiodon reynoldsi, Florida sand skink
Scincella lateralis, Ground skink
Trachylepis quinquetaeniata, African five-lined skink [NON-NATIVE]

Dwarf Geckos (Sphaerodactylidae)
Gonatodes albogularis, yellowhead gecko [NON-NATIVE]
Sphaerodactylus argus, ocellated gecko [NON-NATIVE]
Sphaerodactylus cinereus, grey gecko [NON-NATIVE]
Sphaerodactylus elegans, ashy gecko [NON-NATIVE]
Sphaerodactylus notatus, reef gecko

Whiptail Lizards (Teiidae)
Ameiva ameiva, giant ameiva [NON-NATIVE]
Ameiva praesignis, Borriguerro ameiva [NON-NATIVE]
Aspidoscelis motaguae, giant whiptail; [NON-NATIVE]
Aspidoscelis sexlineata, Six-lined racerunner
Cnemidophorus lemniscatus, rainbow whiptail [NON-NATIVE]
Salvator merianae, Argentine Black & whitetTegu [NON-NATIVE]

Monitors (Varanidae)
Varanus exanthematicus, Savannah tonitor [NON-NATIVE]
Varanus niloticus, Nile tonitor [NON-NATIVE]

Snakes (Serpentes)

File Snakes and Wart Snakes (Acrochordidae)
Acrochordus javanicus, Javan File snake [NON-NATIVE]

Boas (Boidae)
Boa constrictor, Boa constrictor [NON-NATIVE]

Typical Snakes (Colubridae)
Cemophora coccinea, Scarlet snake
Coluber constrictor, Eastern racer
Coluber flagellum, Eastern coachwhip
Drymarchon couperi, Eastern indigo snake
Lampropeltis calligaster, Mole kingsnake
Lampropeltis elapsoides, Scarlet kingsnake
Lampropeltis extenuata, Short-tailed kingsnake
Lampropeltis getula, Common kingsnake
Opheodrys aestivus, Rough green snake

Pantherophis alleghaniensis, Eastern ratsnake
Pantherophis guttatus, Eastern corn snake
Pantherophis spiloides, Gray rat snake
Pituophis melanoleucus, Pine snake
Tantilla coronata, Southeastern crowned snake
Tantilla oolitica, Rim rock crowned snake
Tantilla relicta, Florida crowned snake

Rear-Fanged Snakes (Dipsadidae)
Diadophis punctatus, Ringneck snake
Farancia abacura, Mud snake
Farancia erytrogramma, Rainbow snake
Heterodon platirhinos, Eastern hognose snake
Heterodon simus, Southern hognose snake
Rhadinaea flavilata, Pine woods snake

Elapids (Elapidae)
Micrurus fulvius, Eastern coral snake

Water Snakes, Grass Snakes, and Garter Snakes (Natricidae)
Haldea striatula, Rough earth snake
Liodytes alleni, Striped crayfish snake
Liodytes pygaea, Swamp snake
Liodytes rigida, Glossy crayfish snake
Nerodia clarkii, Salt marsh snake
Nerodia cyclopion, Mississippi green water snake
Nerodia erythrogaster, Plainbelly water snake
Nerodia fasciata, Southern water snake
Nerodia floridana, Florida green water snake
Nerodia sipedon, Midland water snake
Nerodia taxispilota, Brown water snake
Regina septemvittata, Queen snake
Storeria dekayi, Brown snake
Storeria occipitomaculata, Redbelly snake
Storeria victa, Florida brown snake
Thamnophis sauritus, Eastern ribbon snake
Thamnophis sirtalis, Garter snake
Virginia valeriae, Eastern smooth earth snake

Pythons (Pythonidae)
Python bivittatus, Burmese python [NON-NATIVE]
Python sebae, African rock python [NON-NATIVE]

Blind Snakes (Typhlopidae)
Indotyphlops braminus, Brahminy blind snake [NON-NATIVE]

Vipers (Viperidae)
Agkistrodon contortrix, Copperhead
Agkistrodon piscivorus, Cottonmouth
Crotalus adamanteus, Eastern diamondback rattlesnake
Crotalus horridus, Timber rattlesnake
Sistrurus miliarius, Dusky pigmy rattlesnake