FINAL EXAM

Learning Goal ***(Graded Learning Activities)***	**Points**	
	Undergrad WFSC422	**Grad WFSC632**
Apply *(1 Comprehensive Final Exam; 24 short-answer questions @ 3 pts in 2 hr)* *6 questions selected randomly from the question sets for each part of the course (see Study Guides); open book & notes; no open access to electronic files; choose online or paper*	72	72
Due: see academic calendar for the date of this exam **% TOTAL POSSIBLE**	24%	18%

Learning Goal

Objective 4. Apply concepts to examples in a logical framework consistent with modern behavioral biology

Learning Activity

Use the **Assessment Tool** on elearning to access the on-line version of the Final Exam during the 2-hour period specified by the Academic Calendar. The exam will consist of 24 short-answer questions. Six questions (@ 3 pts) will be chosen randomly from the list provided for each of the four parts of the course (6 questions * 4 parts= 24 questions). Your exam will differ from that of other students, to discourage cheating. This is an open book exam and you may use the notes you prepare during the semester. Points will be deducted for plagiarism if the same wording appears in the answers on the exams of more than one student.

You may choose between **two options** for taking the open-book exam: (1) on-line or (2) hard copy. Respond to an elearning email to reserve a seat for an on-campus exam (on-line or hard copy), or to arrange for a proctor for an off-campus exam. The **Proctor Form** is at the end of this document. Proctors must be approved at least one week prior to the exam, should be professionals, with no conflicting interests (i.e. do not ask your mom or room mate to proctor your exam).

Makeup exams will be scheduled only for categories of approved excuses as listed in the Student Handbook. All make-up exams must be hard copy and must be scheduled by submitting a personal PS message in writing (neo or elearning email).

Use the **Study Guides** for each part of the course to prepare for the Final Exam. The numbered questions correspond to the outline for each presentation. The questions are designed to help you make the links between readings and lecture presentations. These are the same as the **BLOG** questions, so you can dialogue with your peers and instructor about concepts and examples as you are preparing your personal answers. Feedback and points earned on the BLOG serve as personal tutoring, essentially the same as an exam to assess your progress on each part of the course. BLOG is different than a midterm exam, because you get to interact more.

If someone asks you a question about an unfamiliar species, you will be more flexible if you can relate the question to a **concept** and **example** that is familiar to you. This will also help you identify questions and hypotheses as you apply the scientific method in inquiry activities. As you are preparing for the exam, choose examples that you find most interesting so you will remember the information over the long-term. This learning activity will prepare you to answer random questions from the public, should you choose a career in the zoo world or education. The emphasis is on concepts so you learn about testable hypotheses that may be applied to a variety of different examples from diverse species.

You will be encouraged to **dig a little deeper** in your own area of interest to find supplemental web-based scientific sources so you can stay at the forefront of new knowledge. Use the Action Items at the end of each lecture and the [Resource] link to find the most up-to-date information about "the science behind the myths" that you read in the textbooks, on popular websites and in the news. See tips for using Web of Knowledge on the [Technical Help] link. Use only sources available in the public domain. Science is a very public process. Your grandfather may be very knowledgeable, but if the information he provides you is not available to anyone else, it would not be considered credible from a scholarly view.

Remember to **avoid plagiarism**, and use your critical thinking skills to paraphrase copyrighted material, rather than directly copying and pasting the information. There are so many good examples out there that your answers should be your

own, clearly not copied from another student. If you must use exact words from someone else, be sure to use quotation marks and indicate the page number in the source that you cite.

You will earn points for citing **sources** from the peer-reviewed scientific literature. Your textbook has been peer-reviewed, so is an appropriate scientific source. Be sure and cite the name of the author(s) of the chapters in Halliday (1994), as it is an edited volume. You may use other secondary sources, such as course lecture notes, websites, and the textbook to help you find peer-reviewed sources. However, secondary sources are not considered as credible as primary sources. You do not need to provide the entire citation on your exam, if it has been documented elsewhere in the course materials or BLOG. You do need to provide the author and publication date so your reader can look up the source. If your source is a book, provide the page number so you and your reader are on the same page For example, to refer to Tinbergen's work, the citation would be (Halliday 1994:9). The "9" refers to the page number.

Example Scenarios:

NEOMI's TIP	*Chris is doing graduate research on spawning behavior of bluegill sunfish. Although the examples of wolves and deer help broaden perspectives, Chris really wants to be on top of the literature about fish behavior. Chris finds examples of aquatic species to illustrate the keyword concepts to answer all the spotlight questions. Google Scholar is useful for finding the frequently cited articles. By looking at the literature cited, Chris finds key authors that are not showing up on the internet and uses Web of Science to find the classic studies and the most recent publications that have cited those studies. Chris uses Endnotes to store these references and picks out the most relevant ones. By memorizing the author names and dates to cite those references, Chris is prepared to go back to look up details as needed.*
HUGO's TIP	*Les is a reptile curator who wants to be able to illustrate each of the concepts with examples from reptiles, during keeper chats. Les chooses to use the keywords "learning" and "reptile" to find relevant examples of scientific studies, using the Web of Science database to do online research (see Resources). Les shares this information by posting to the BLOG, and looking for feedback from other students. Other students help Les refine draft answers on the BLOG, by asking "where is the evidence"? Based on all Les learns about this subject, Les will jot down some notes to prepare a quick answer if the question happens to come up randomly on the comprehensive final exam. As a result of this activity, Les will have in long-term memory the information needed to respond "on the spot" to random questions from the public. On the job, the questions may not be phrased exactly the same way, but Les will have thought through how to grab the "teachable moment" by responding to a similar question.*
MIKE's TIP	*Pat's goal is getting certified as a middle-school biology teacher. Pat has identified a couple of the videos from Trials of Life, which will be useful in the classroom. Pat focuses on the examples in those videos. Several of the examples are referenced in the textbook. Pat is looking for more background information on other examples that illustrate a concept really well, but are short on details. Pat mostly uses Google Scholar to find sources, because that is what students will be able to use outside the classroom. Pat likes memorizing the authors and dates of these references, because it will be useful for explaining to students how knowledge changes over time as scientists discover new things and disprove old hypotheses. With this knowledge, Pat will be able to refer students to specific articles that will catch their interests. Pat did not know the scholarly format of referencing the page number along with the author and date. This is part of the "show me the evidence" detective work that Pat wants to reinforce in the students at an early age. Pat does not have a very good memory for numbers, so makes a list of the author, date and page number of references from the textbook.*

INSTRUCTIONS FOR EXAM PROCTORS

PURPOSE:

1. To provide a fair way for students to complete the Final Exam using elearning online.
2. To reinforce the use of the Aggie Code of Ethics, in a manner that meets the expectations of Texas A&M University.
3. To reassure other members of the course that all students were treated equally and fairly.

PROCEDURES:

1. Impartiality: Discuss with the student why you qualify as an impartial proctor and procedures described below.
2. 2 hour: Arrange for the student to use a computer where they will be undisturbed during the examination period as specified in the TAMU Schedule of Classes.
3. Open book: Ask the student to have open only the elearning window for the Final Exam. Ask to examine notes on paper and any books that the student may request to use during the exam. If there is any indication that notes were prepared by a person other than the student, please describe on the form below.
4. No cheating: Observe the behavior of the student, commenting on any indication of cheating (on the form provided below). If there is behavior that might be interpreted as misconduct (as defined in the Student Handbook), warn the student verbally the first time, then ask that the exam be terminated and submitted without further completion if the behavior reoccurs. Note that direct copy/paste from an electronic file into the exam is considered cheating because it is not fair to others who take the hard copy.
5. Complete the attached form, sign and return it by FAX to 979-845-3786, c/o Dr. Jane Packard.
6. Any questions about the examination process? Call Jane Packard at 979-845-1465 or 845-5777.

---------- PROCTOR RESPONSE FORM

FAX: 979-845-3786 PHONE: 979-845-1465, 979-845-5777

TO: Dr. Jane Packard, Wildlife and Fisheries Sciences, Texas A&M University, j-packard@tamu.edu

This is in reference to the open-book exam titled _____, which was administered at the time _____ on the day _____ , at the following location: _____.
From the evidence of a photo ID, the person who took the exam was: _____.
My qualifications for serving as an impartial proctor are: _____.
I may be contacted at (phone/email): _____

CHOOSE ONE: To the best of my knowledge, I **[agree] [disagree]** that this exam was administered in a fair manner with no evidence or possibility of cheating and/or misconduct.

COMMENTS:

Signature/date: _____

EXAMPLE

FINAL EXAM (OPEN BOOK, 2 hours)

DIRECTIONS: **Fill in the last 6 digits of your UIN on ALL pages.** Answer each of 24 questions (@ 3 points) in a scholarly style, using complete sentences to explain the keyword concepts and examples. Unless placed in quotes, Folk Psychology is not considered a scholarly style of communication. The criteria for evaluation of each answer will include: concept, example, scientific source. If there is any indication of plagiarism or cheating, the proctor will collect the exam immediately. Plagiarism includes the verbatim use of another's words without using quotation marks and citing the source.

1. What are the objectives of this course?

2. What is the meaning of **Ultimate Function** (UF) from an ethologist's perspective? (TIP: give example)

3. What is learned intelligence and why have fish, reptiles, birds and mammals diverged during evolution of this trait (TIP: compare brain anatomy)?

4. What are the similarities and differences between artificial selection and natural selection of heritable instinctive behaviors (give examples)?

EXAMPLE

5. Compare Folk Psychology and Scientific perspectives on behavioral adaptations to stress?

6. Why has migratory behavior EVOLVED in the past history of a species of your choice?

7. What is the concept of communication in ethology?

8. What is an example of the ultimate function of a FIXED communication signal?

9. In a species of your choice, how would you test an hypothesis about the FUNCTION of intense conflict between strangers?

EXAMPLE

10. In a species of your choice, WHY would the fitness of “assessor genotypes” have been higher than “non-assessors”?

11. How do hierarchical relations within stable groups differ from contests of strength between groups?

12. How would you apply your understanding of social conflict to managing a social species of your choice?

13. For a species with alloparents, how does the development of parental behavior change with age? (TIP: describe the progression from alloparenting to parenting)

14. In a mammal species of your choice, how do the father and mother care for the young?

EXAMPLE

15. In a species of your choice, how is internal fertilization accomplished?

16. What is the phylogenetic history of asexual reproduction?

17. Within a taxonomic group of your choice, how have species-specific signals diverged?

18. What would be the costs of elaborate displays in males? (TIP: UF answer in terms like “those that…)

19. For a group-hunting species of your choice, how are individuals coordinated in capturing prey?

EXAMPLE

20. What are examples of anti-predator behaviors with the following functions: camouflage, redirect attack, fight back?

21. How does a species with a GENERALIST foraging strategy decide what to eat?
(PC TIP: choose a species and be specific about the availability & content of food items)

22. What is the function of behavioral adaptations to store nutrients? (UF TIP: pick a species and explain what is predictable/unpredictable in its environment re. food storage)

23. For a species that builds a structure from body secretions, what is the evidence that the proximate mechanisms are more instinct than learned? (TIP: choose a species such as a spider or colonial insect and refer to the degree of variation in response to stimuli)

24. Why has the shape of termite mounds diverged for two species that live in different habitats? (TIP: be explicit about which is the ancestral vs. derived form of the adaptation)