

Sample syllabus for a course I hope to teach in the future

**BIO 491: Applied Conservation Biology**  
*University of Tennessee, Spring 2015*

**Lecture:** Monday & Friday 11:15-12:05, Hesler 430 (3 credits)

**Field Trips / Workshops:** Saturday, Feb. 7<sup>th</sup>, Feb. 28<sup>th</sup>, April 11<sup>th</sup>

**Instructor:** Ms. Cassie Dresser ([cdresser@utk.edu](mailto:cdresser@utk.edu))  
Office: Hesler 435

**Office Hours:** Wednesday 11:00-12:00; Thursday 2:30-3:30; or by appointment

**Anonymous Feedback:** <http://www.cassiedresser.info/feedback>

You will evaluate the course at the end of the semester, but if you see a way to improve your learning at any point during the semester, feel free to let me know.

**Course Description:** The study of conservation biology is often plagued with the gloom and doom associated with biodiversity loss, species extinctions, and habitat destruction, but this course will highlight the success stories in conservation. Case studies will range from species-specific to ecosystem level conservation and particular attention will be given to theoretical and empirical research. Scheduled field trips and workshops will introduce students to real-world conservation programs and personnel, as well as, hands-on experience with computer programs used in conservation. Additionally, students will have the opportunity to design their own conservation plan for an imperiled species or ecosystem.

*\*Recommended Prerequisites: Introductory Biology (BIO 130 or BIO 140) and Genetics (250); biology and non-biology majors welcome*

**Course Website:** <http://bblearn.utk.edu/> (Blackboard, i.e. BB)

**Required Texts & Materials:**

REQUIRED - Goodall, Jane. 2011. Hope for Animals and Their World: How Endangered Species Are Being Rescued from the Brink (HOPE). (Available on Amazon in hardcover, paperback, or on Kindle for \$2-\$12)

STRONGLY RECOMMENDED - Frankham, Richard; Jonathan D. Ballou; David A. Briscoe. 2010. 2nd Edition. Introduction to Conservation Genetics. (Available on Amazon for rent, purchase used or new for \$17-\$65)

REQUIRED - Notebook; (A Rite in the Rain Notebook for \$3-\$12 is recommended for field trips)

\*Other readings will be provided on BlackBoard, including essays and chapters from Groome et al. 2006 Principles of Conservation Biology (PCB) - 3rd edition

**Course Learning Objectives:**

***Content***

- Apply conservation principles to develop a conservation plan for a species or area

***Professional Development***

- Gain contacts with various conservation agencies and personnel
- Improve scientific communication skills (reading, writing, and speaking)

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- Strengthen ability to manage one's time, work both independently and collaboratively, and take initiative of one's learning
- Recognize the importance of and develop skills in critical thinking

### Course Schedule:

Date	Day	Topic/Question	Reading ( <i>complete before class</i> )
Jan. 12	M	Introduction to Conservation, Course Overview, <b>PRE-TEST</b> <a href="https://www.youtube.com/watch?v=0ZmqwdBeuKs">https://www.youtube.com/watch?v=0ZmqwdBeuKs</a>	Syllabus
Jan. 16	F	Final Project Overview & Pre-interviews*	
Jan. 19	M	<u>Review</u> : Biodiversity Patterns	Gaston 2000 (Nature)
Jan. 23	F	<u>Review</u> : Threats to Biodiversity	Crisis of Life Videos (1-4) <a href="https://www.youtube.com/watch?v=xBwg9xT7ilw">https://www.youtube.com/watch?v=xBwg9xT7ilw</a>
Jan. 26	M	<b>BIG QUIZ</b> & Video Discussion: "Kilowatt Ours"	
Jan. 30	F	<u>Core concepts</u> : What is a species?	Mallet 1995 (TREE); Harrington & Rizzo 1999 (Stru.Dyn.Fung.Pops) <b>*Mini HW 1</b>
Feb. 2	M	<i>Case study</i> : Florida Panther	Roelke et al. 1993 (Curr.Biol.)
Feb. 6	F	The ESA and the IUCN Red List	Rodrigues et al. 2006 (TRENDS); Utter 2011 (Can.J.Fish.Aquat.Sc.)
Feb. 7	S	<b>Workshop</b> : Population Viability Analysis	<b>*Workshop Pre-assignment</b>
Feb. 9	M	<u>Core concepts</u> : Species Recovery Plans	Dodson et al. 1998 (Can.J.Fish.Aquat.Sc.); Shilling 1997 (Science) <b>*Mini HW 2</b>
Feb. 13	F	<i>Case study</i> : Black-Footed Ferret	HOPE (p.7-17) <a href="http://www.blackfootedferret.org/">http://www.blackfootedferret.org/</a> <b>*Field Trip Post-assignment</b>
Feb. 16	M	<i>Case study</i> : Black-Footed Ferret	Recovery Plan (2013)
Feb. 20	F	<i>Case study</i> : Whooping Crane	HOPE (p.105-120) <a href="https://www.savingcranes.org/whooping-crane-conservation.html">https://www.savingcranes.org/whooping-crane-conservation.html</a>
Feb. 23	M	<i>Case study</i> : Whooping Crane	International Recovery Plan (2007)
Feb. 27	F	<i>Case study</i> : Bog Turtles	Recovery Plan (2001) <b>*MIDTERM assigned</b>
Feb. 28	S	<b>Field Trip</b> : Knoxville Zoo Herpetological Department	<b>*Field Trip Pre-assignment</b>
Mar. 2	M	<u>Core concepts</u> : Conservation Genetics	Amos & Balmford 2001 (Hered.); Frankham 1995 (Con.Gen.) <b>*Mini HW 3</b>
Mar. 6	F	<i>Case study</i> : Cheetah (Inbreeding Depression)	Merola 1994 (Con.Biol.) <b>*Field Trip Post-assignment</b>
Mar. 9	M	<i>Case study</i> : Common Deerweed / California Broom (Outbreeding Depression)	Montalvo & Ellstrand 2001 (Amer.J.Bot.)
Mar. 13	F	<b>Midterm Workday</b> (no class)	<b>*MIDTERM due by 11:59 PM</b>
Mar. 16	M	<b>SPRING BREAK</b> (no class)	
Mar. 20	F	<b>SPRING BREAK</b> (no class)	
Mar. 23	M	<u>Core concepts</u> : A Multidisciplinary Science	Soule 1985 (BioSci) <b>*Mini HW 4</b>
Mar. 27	F	U.S. Gov't Agencies & NGOs in Conservation	Clark 2006 (PCB p.13); Fuller 2006 (PCB p. 16)
Mar. 30	M	<i>Case study</i> : Giant Panda (Zoos)	HOPE (p.169-177)

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April 3	F	Role of Academia and Private Landowners	Fleishman 2006 (PCB p.8); McDonald 2006 (PCB p.21)
April 6	M	<i>Case study:</i> Texas Songbirds (Landowner Incentives)	Sorice et al. 2011 (Con.Biol.)
April 10	F	<i>Case study:</i> Golden Lion Tamarin (Community Involvement)	HOPE (p.67-75)
April 11	S	<b>Field Trip:</b> US Fish & Wildlife Service	<b>*Field Trip Pre-assignment</b>
April 13	M	<u>Core concepts:</u> Habitat Conservation Plans	Harding et al. 2001 (Con.Biol.); Lin 1996 (Ecology) <b>*Mini HW 5</b>
April 17	F	<i>Case study:</i> Tiritiri Matangi, NZ	<a href="http://www.tiritirimatangi.org.nz/">http://www.tiritirimatangi.org.nz/</a> <b>*Field Trip Post-assignment</b>
April 20	M	<i>Case study:</i> Marine Reserves	Gell & Roberts 2003 (TRENDS); Halpern 2003 (Ecol.App.)
April 24	F	<i>Case study:</i> Detroit River **Guest Speaker	<a href="http://www.environmentalcouncil.org/priorities/article.php?x=13">http://www.environmentalcouncil.org/priorities/article.php?x=13</a>
April 27	M	Corridors (Pros and Cons)	Berges et al. 2010 (Sc.Eaux.Terr.); Hess 1994 (Con.Biol.)
May 1	F	<b>BIG QUIZ</b> & Post-interviews	<b>*Course Reflection Survey</b>
May 4?	M	<b>FINAL PROJECT PRESENTATIONS</b>	

\* Content and readings subject to change as deemed necessary by the professor

**Pre-test:** An ungraded individual assessment will be issued to evaluate your knowledge about basic biology concepts obtained prior to this course, topics of interest, and previously used learning strategies. This assessment will be used to modify planned course content as needed to fill knowledge gaps, correct misconceptions, and introduce new learning strategies.

**Mini Homework List:** Pre-lecture homework and readings serve to prep your mind for receiving new content and is most effective when completed the night before the lecture. I also use your responses to clarify misunderstandings and incorporate topics that interest you in the coming lecture.

Please submit a typed, free-write response to the appropriate question below (100-300 words).

1. What is a species (how can one be defined)? Why is a clear definition important in conservation?
2. What information should be included in a species recovery (i.e. conservation) plan? Make a generic table of contents.
3. Why might increasing population sizes alone not be enough to save a species? Why is genetics important?
4. Why are multiple disciplinary perspectives important in conservation biology?
5. Which are better, species-specific recovery plans or habitat conservation plans? Support your answer.

**Field Trips / Workshops:** There are three required Saturday classes (1 workshop and 2 field trips). Events are expected to start at 8:30 AM and end at 12 PM, but specific times are dependent on host flexibility and travel time. Transportation will be provided. Pre and post assignment instructions will be provided one week before the scheduled trip. Pre assignments are due the morning of the workshop or field trip (hardcopy) and post assignments are due the following Friday (BB).

**Midterm:** You will be given two weeks to complete the take-home midterm exam. The exam will require substantial scientific literature searches and a good deal of writing. You are permitted and encouraged to use your notes, Internet resources, and books, but you may NOT discuss the exam with any other human being. Individuals violating this restriction will be given a zero.

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**Final Project:** All conservation work requires collaboration, thus this project must be completed in groups of 3-4 people (no individual projects will be accepted). Project guidelines will be provided on the second day of class and due at the scheduled final day/time.

**Pre and Post Interviews:** Individual interviews will be conducted during the first and last week of the semester. The interviews are not graded and completely voluntary. Pre-interview responses will serve to better structure the course content to reflect knowledge gaps and/or topics of particular interest to you. Post-interview responses will be compared to pre-interview responses to see if and how your opinions and understanding of conservation biology changed as a result of taking this course.

**Assessment:** Quizzes, exams, and assignments are vital components of the learning process. Studies have shown that frequent assessment, greater variety in assessment methods, and active participation result in higher-level understanding of material. Therefore, your grade will be determined as follows:

Big Quiz (50 pts. each) .....	100 pts.	(12.5%)
Midterm .....	200 pts.	(25.0%)
Final Project .....	150 pts.	(18.8%)
Presentation of Final Project .....	50 pts.	(6.25%)
Workshop / Field Trip Assignments (30 pts. each)...	90 pts.	(11.3%)
Mini HW Assignments (5-7 pts. each) .....	35 pts.	(4.37%)
Participation (5-6 pts. per day).....	150 pts.	(18.8%)
Course Reflection Survey .....	<u>25 pts.</u>	(3.12%)
	800 pts.	

**Final letter grades will be determined by the total percentage of 800 points accumulated as follows:**

A	93 – 100%	B-	80 – 82%	D+	67 – 69%
A-	90 – 92%	C+	77 – 79%	D	63 – 66%
B+	87 – 89%	C	73 – 76%	D-	60 – 62%
B	83 – 86%	C-	70 – 72%	F	<60%

**Technology:** In the interest of facilitating a healthy and productive learning environment for yourself and your peers... Cell phone use is strictly prohibited during class. Laptops and tablets are welcome in class, but may only be used for class purposes (i.e. note taking and/or viewing assigned readings). Violation of either policy will result in a daily participation grade of zero for the violator.

### **Communications:**

- If you need to meet and can't make office hours, please email me using your UTK e-mail with a list of 3 days/times that you are available.
- I am happy to answer specific questions via e-mail, but please allow up to 24 hours for a response. NOTE: any emails received after 4 PM on Friday may not receive a response until Monday.
- If you require a more prompt response post your question on the course discussion board on BB. I will still receive an email about it, but someone else may be able to answer you sooner.

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Furthermore, posted answers will be available to everyone. The discussion board may NOT be used for questions related to the midterm.

### **Make-ups, Extensions and Extra Credit:**

- NO make-ups are provided for quizzes or exams without a valid and documented excuse. Emergencies do happen, but you **MUST** contact me prior to the start of class via email, a phone call, or a note on my office door (make sure to include your full name, e-mail, and phone number where I can contact you). NOTE: Intercollegiate athletes and musicians must provide documentation of all departure dates and times for university sponsored events that occur during the semester (provide schedule within the first two weeks of the term).
- One make-up for a missed field trip or workshop will be permitted if the professor is notified at least 1 week in advance (or in the case of an emergency as instructed in the first bulleted point above). The make-up will take the place of pre and post-assignments and the day's participation points. A scientific critique paper will serve as the make-up, as assigned by the professor and will be due at the same time as the post-assignment.
- NO extensions will be permitted for any assignment (i.e. homework, field-trip/workshop assignments, projects, exams, etc.). Late work will not be accepted, not even for partial credit. Only in extreme circumstances -- as deemed by the professor -- will this policy be waived.
- I DO NOT offer extra credit. Instead, there are extra points built into the course to allow for missing class or a homework assignment (i.e. I will assign 820 points, but you can only receive a maximum of 800 points, which effectively drops your lowest participation grades or in the case of perfect attendance, your lowest homework assignment grade).

### **Academic integrity:**

Academic dishonesty of any sort will not be tolerated. **Plagiarism** includes the copying of phrases, portions of sentences or the main ideas from ANYONE (including a classmate) on ANY work submitted for a grade (homework, exams, assignments, etc.). Academic dishonesty also includes assisting other students on quizzes or exams.

You are expected to abide by The University of Tennessee honor statement in this course and in all of your university activities as pledged in the honor code:

***“An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”(2012-2013 Undergraduate Catalog)***

Depending on the offense, penalties for academic dishonesty range from a minimum of a zero for the assignment, to an F for the course, to the filing of formal academic dishonesty charges seeking dismissal from The University of Tennessee. These choices are at the discretion of the instructor, and can occur in either the lecture or the lab portion of the class. NOTE: You should be familiar with the requisites of academic honesty and what constitutes academic dishonesty as outlined in the UT Undergraduate Catalog (<http://catalog.utk.edu/>).

**Disability Services:** If you need course adaptations or accommodations because of a documented disability, or if you have questions or concerns about disabilities or emergency information to share,

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please contact Disability Services: 2227 Dunford Hall; 974-6807; Email: [ods@utk.edu](mailto:ods@utk.edu); Website: <http://ods.utk.edu/>).

**Counseling Center:** <http://counselingcenter.utk.edu/> (900 Volunteer Boulevard; 865-974-2196; Email: [counselingcenter@utk.edu](mailto:counselingcenter@utk.edu))

### Academic Assistance:

- **Tutoring:** The Division of Biology does not offer tutoring services. Contact the Student Success Center and the Academic Support Unit of The Office of Minority Student Affairs for information about tutoring opportunities.
  - **Student Success Center:** The comprehensive source for information, services, and resources to assist your success at UT: <http://studentsuccess.tennessee.edu/studentsuccesscenter/> (1817 Melrose Avenue, and 812 Volunteer Boulevard, 865 974-6641, Email: [studentsuccess@utk.edu](mailto:studentsuccess@utk.edu))
  - **Academic Support Unit of The Office of Minority Student Affairs** offers some tutoring services available to all students, but openings are limited and are filled quickly. The office offers other types academic assistance and support as well: <http://omsa.utk.edu/services/> (1800 Melrose Avenue, 865 974-6861, Email: [omsa@utk.edu](mailto:omsa@utk.edu))

**Study Rooms:** 417 Hesler is a quiet study room for majors in Biology. It can also be reserved for group study. There is also a student study room in Neyland Biology Annex, room 103.

### Technical Assistance:

Blackboard or general information technology assistance:

- <http://remedy.utk.edu/contact/>
- Help Desk: 865-974-9900 (M – F, 8:00 – 5:00)
- OIT Computer Support Service Center and Walk-In Help Desk: Commons South, 2<sup>nd</sup> floor Hodges Library

### **HOW TO SUCCEED IN BIO 491:**

1. **Come prepared** (do readings, bring questions / comments)
2. **Participate** (ask questions, make comments, engage in discussion)
3. **Don't procrastinate** (set mini deadlines for midterm)
4. **Review content regularly** (Core concepts!)
5. **Use your resources** (office hours, email, peers, google, etc.)

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