Course Code & No. - Section:	BIOL 407 - Section 1
Course Title (Credits):	Conservation Biology
Term & Year:	Spring 2015
Course Ref. No. (CRN):	10041
Instructor:	Dr. Suzanne Gollery
Phone(s):	775-831-1314 ext7456 or 775-813-4215 (8 a.m. – 9 p.m.)
Email:	sgollery@sierranevada.edu
Office:	TCES, room 223
Office Hours:	M 10:00-11:15 a.m., W 2:30-3:45 p.m., R 1:00-2:15 p.m. or by appointment
Class Meeting Time:	Tues & Thurs 2:30 – 3:45 p.m.
Location:	TCES 206
Prerequisites:	ENVS 200 and ENVS 205

Course Descriptions:

BIOL 407: Conservation Biology Prerequisites: ENVS 200 and ENVS 205. Study of the origin and preservation of biological diversity. Conservation biology as a science has emerged due to the human population causing the extinction of species and loss of habitats throughout the biosphere. Topics include the genetics of small populations, extinction processes, introduced species, and habitat fragmentation. Specific case studies such as the spotted owl, the great lakes of Africa and North America, and the California condor are used to illustrate the complex nature of conserving biological diversity.

Student Outcomes for BIOL 407: Upon successful completion of this course, a student will be able to:

1. Properly define and identify terminology related to conservation biology;
2. Describe the major forms of life on Earth and patterns of geographical distributions;
3. Discuss issues in conservation biology from scientific, cultural, ecological, economic, and moral points of view;
4. Describe examples of the impacts of habitat loss and degradation, species invasions, and human exploitation;
5. Relate to approaches used to solve conservation problems.

Methods of Assessing Student Outcomes: Student outcomes will be assessed using the following:

1. Class preparation assignments will assess student understanding of reading assignments
2. Three unit exams and one final exam will assess the ability of students to remember, apply, and synthesize key facts and concepts of course content.
3. Instructor observation during class discussions will assess the depth and nuances of student understanding of course content.
4. Each student will present a case study in conservation biology, demonstrating their understanding of conservation biology language, methods, concepts, and complexities.

Instructional Strategies

You will prepare for class by reading materials and answering CPA questions. Meeting time will be spent on discussions of the reading or CPA questions and mini lectures to help explain particularly dense concepts. Once most course content has been introduced and discussed, each student will research and present a case study on conservation biology, including assigning reading that all class members will read to prepare to discuss the case.

Required Texts and Materials

1. Richard B Primack, Essentials of Conservation Biology, 6th edition, Sinauer, 2014, ISBN 978-1-60535-289-3
   a. Rent for about $34, buy new for about $85, used copies aren't much less (about $73), eBook is about $40.
2. Scott Lillie author, Mike Zerwekh editor, Tents, tortoises, and tailgates: my life as a wildlife biologist, Amazon Digital Services, 2014. This is a Kindle book and costs $4.99. If you don't have a Kindle, you can download a free Kindle reader onto your computer to read the book. We'll start with this book.
3. A loose-leaf binder or spiral notebook with pockets to keep notes and returned work.
4. Access to a computer (one that meets the published SNC Computer Requirements) and internet

Attendance
It is extremely unusual for a student to do well in a class without attending regularly. Much of the course content will be clarified or presented in class discussions. Therefore, you must be present in class to receive credit for CPAs or submitted questions about student presentations. Please inform the instructor early in the semester if you know you will miss class during the semester, as excused absences can be arranged for collegiate sports, family milestones (weddings, funerals…), serious illness or injury, jury duty… However, excused absences will not be granted for having to work, providing transportation to someone else, having out-of-town guests, having lots of work in other courses, or short-term illness (like a headache). There will be a few extra CPAs to allow success in class in spite of a few unexcused absences, but use these wisely!!

Course policies:

1) **Due dates and late work:**
Due dates for CPAs and other assignments are indicated on the schedule of classes. Late work will be accepted, but you will lose 20% of the possible points for every calendar day that the work is late, whether or not you have an excuse absence, so it will not be worth any credit after 5 days. Work due at the beginning of class, but submitted later that same day, will be charged a 10% penalty. Late work can be submitted by email or directly to me (slip it under my door if my office is locked). Do NOT wait until the next class meeting to submit late work!

2) **E-mailed work:**
All work may be submitted by e-mail or in hard copy. I will reply to verify that e-mailed work was received. It is your responsibility to follow up if I do not reply about e-mailed work.

3) **Electronic devices:**
You are never permitted to use MP3 players in class at any time, including during exams. Cell phones, tablets, and laptops may be used to access online resources or take notes in class. I may confiscate phones, MP3 players, tablets, or laptops that are used for non-class purposes until the end of class. If you must text or call someone during class time in an emergency, please leave the room.

4) **Modifications to the BIOL 407 course syllabus:**
This syllabus and schedule is intended to provide students with a clear and accurate outline of course content, student outcomes, class topics, assignments and due dates, and exam dates. You should keep and refer to the syllabus regularly. I reserve the right to make announced changes to the syllabus and class schedule at my discretion if it is in the best interest of students in the class to do so. Major changes, such as changes to exam dates or coverage and permanent changes to the schedule, will be posted on Moodle and e-mailed.

Prim Library Resources
Using the library's resources effectively (not just Internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. It also establishes good habits that will serve students well in their professions. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

Prim Library Resources for BIOL 407: Conservation Biology include, but are not limited to:

1. Books (can be checked out): In general, books related to biology have Library of Congress Classification numbers ranging from QH through RC. Books about biotechnology have LCC numbers beginning with TP. However, you will find books related to our course with other LCC numbers, so search the Prim Library Catalog using key words related to the topic that you are researching.
2. Electronic databases (for peer-reviewed research articles, reviews, newspaper and magazine articles): Electronic databases most likely to include articles on biology topics are EBSCO: Academic Search Premier, Environment Complete, General Science Collection, GreenFILE, Health Source, Newspaper Source, and TOPICsearch; BioOne; and GREENR. If you want to access electronic databases when you are off campus, use your first initial and your last name as the username and your 9 digit student ID number as the password.

3. Hardcopy periodicals: Prim Library has current subscriptions for Science, New Scientist, Science News, and National Geographic Magazine. Any of these are likely to have articles about biology topics written for educated people who are not necessarily scientists.
4. Lib Guides: http://Libguides.sierranevada.edu These web pages contain instructions about how to use resources available at Prim Library, how to evaluation the appropriateness of information from the Internet for a research paper, how to cite sources, and other topics related to finding and using information.

The SNC Email System The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a student from the responsibilities associated with official communication sent to his or her SNC email account.

ADA Accommodations In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, hconover@sierranevada.edu, office in Prim Library: PL-304. If you are having trouble with this class for any reason, please talk to me about it so that I can help you.

Sanctions for Cheating and/or Plagiarism

The Honor Code The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

Consequences of Violating the Student Honor Code SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

1st Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

2nd Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.

3rd Offense: Student is expelled.

The Sierra Nevada College Mission Statement:

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

The Core Themes: Four core themes from the SNC mission are woven through all courses and the life of the community at SNC.

Liberal Arts	**Professional Preparedness**
Entrepreneurial Thinking	**Sustainability**

Grading Policy The BIOL 407 grading curve is based on a 700-point scale. SNC awards half grades (e.g., A– or B+), so a student with a point total within 1.5% of the cutoff for the letter grade will earn the appropriate half grade.

Grading Curve

A	90 – 100%	630 – 700 points
B	80 – 89.9 %	560 – 629 points
C	68 – 79.9%	476 – 559 points
D	58 – 67.9%	406 – 475 points
F	<58%	<406 points

Students may earn points in the following ways:

CPAs: 15 at 10 points each	150 points
Presentation critiques: 10 at 10 points each	100 points
3 absences w/o penalty at 10 points each	(- 30 points) (You can drop the three lowest CPA or critique scores)
Case presentation	120 points
Exams – 3 at 80 points each	240 points
Final exam – 120 points	120 points
	700 points

Assignment details:

Class Preparation Assignments (CPAs):

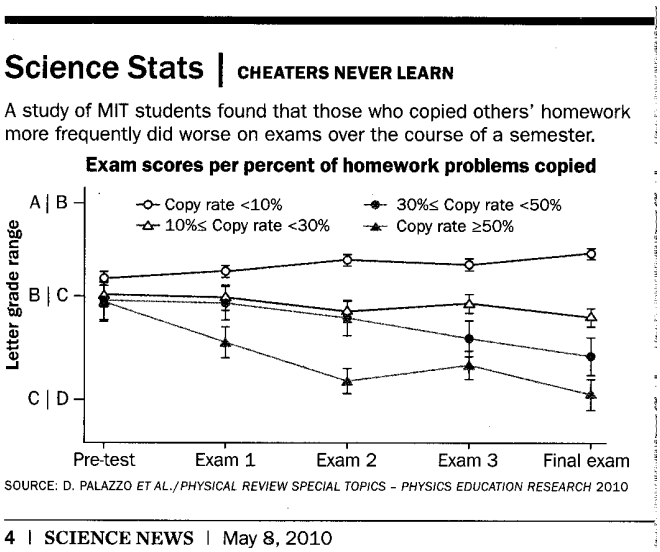
Short description of the assignment: You will write and submit answers to questions about the assigned reading at the beginning of each class. CPA questions are posted on Moodle for each week. Many CPA questions are reflective, that is, they ask your opinions about material that you read, so you will not be able to Google the answer. Some will check your understanding of content from the reading assignments.

Learning goals for the assignment: Scientific studies on how people learn have shown repeatedly that we learn and remember more when we are active learners. This means that you will remember and be able to apply more facts and concepts for a much longer time if you learn them by reading and writing about them, communicate about them with other people, and apply them to solve problems in different contexts, than if you passively listen to an instructor lecture. The CPA questions give you a chance to learn actively while reading material that we will discuss in class. Time in class will be used to discuss the reading and CPA questions in the first 2/3 of the semester prior to student presentations of conservation biology cases.

How to do the assignment: Write answers to CPA questions by hand (if legible) or type in a computer file. In either format, use your own words – don't copy or cut and paste. Please email answer files before class OR turn in hard copy answers at the beginning of class.

Individual work: You must write answers to questions and all individual assignments in your own words. Students with answers that are identical to or paraphrased from other students work, the assigned reading, Wikipedia, or other published or internet sources will receive no credit for the assignment and consequences for violating the academic honesty policy will apply. Cheaters never learn!

Scoring and feedback from the assignment: CPAs will be scored for effort, rather than factual correctness. I will give you written feedback on some questions, but not all. We will discuss the answers in class. You should keep your evolving CPA question answers in your binders.



Science Stats | CHEATERS NEVER LEARN

A study of MIT students found that those who copied others' homework more frequently did worse on exams over the course of a semester.

Exam scores per percent of homework problems copied

SOURCE: D. PALAZZO *ET AL./PHYSICAL REVIEW SPECIAL TOPICS – PHYSICS EDUCATION RESEARCH* 2010

4 | SCIENCE NEWS | May 8, 2010

Exams: Three exams will cover material introduced since the last exam, although course content builds, so you will be asked to apply concepts and information learned previously when these are related to exam chapter content. Exams include multiple choice questions, since this format is used on standardized exams, such the GRE and MCAT. Other questions may include short answer, essay, or true-false formats. Many exam questions will ask you to apply concepts and facts, that is, apply them to cases that you haven't seen before. You will have hard copy exams.

Final Exam: You will take a comprehensive final exam at the end of the semester with a format similar to the three in-class exams. However, about 1/3 of the points on the final exam will be drawn from student presentation case study materials. The Conservation Biology final exam is scheduled for Tuesday, May 12, 2015, 11:30 AM – 2:30 PM.

Midterm grades: I will calculate midterm grades using all work due through March 11, 2015. There will not be a midterm exam, per se.

Student case presentations: Each student will choose a conservation biology case that interests them to present to the class. Student presenters are responsible for assigning reading material at least one week in advance for the class to read to prepare to discuss the case. The case will be presented as if you are teaching the class, using images projected on slides, class activities, video clips, leading class discussions, answering students' questions… any format that helps you to teach the class about the case. You are expected to use conservation biology vocabulary accurately and relate the case material to concepts of conservation biology that we studied earlier in the semester. In the last 15 minutes of class, students attending will critique the case presentation and write two potential exam questions related to the case. You should plan to research your case and work on your presentation for at least four weeks prior to your assigned date.

The class schedule for Conservation Biology begins on the next page.

Day and Date	Reading assignment	Topic	Assignment due
Week 1 *Monday, Jan 19* Tuesday, Jan 20	 Syllabus, Primack Chapters 1	 *Martin Luther King Holiday* What is conservation biology?	
Thurs, Jan 22	Lillie preface, intro, Ch 1 Primack Chapter 12	What does an entry-level conservation biologist do?	CPA 1
Week 2 Tuesday, Jan 27	Lillie Chapters 2 – 4 Primack Chapter 2	Advantages and disadvantages of field biology careers Biodiversity	CPA 2
Thurs, Jan 29	Lillie Chapters 3 – 6 Primack Chapter 3	Comparing biodiversity in Missouri and Arizona Where does biodiversity exist?	CPA 3
Week 3 Tuesday, Feb 3	Lillie Chapters 8 & 9 Primack Chapter 4	The value of protecting the environment	CPA 4
Thurs, Feb 5	Lillie Chapters 10 – 12 Primack Chapters 5 & 6	How we value the environment and biodiversity	CPA 5
Week 4 Tuesday, Feb 10		**Exam 1: Biodiversity, its value, and the job of an entry-level field (conservation) biologist**	
Thurs, Feb 12	Primack Chapters 7 & 8	Why do species go extinct?	CPA 6
Week 5 *Monday, Feb 16* Tuesday, Feb 17	 Primack Chapter 9	*President's Day Holiday – no classes* Human causes of extinction: habitat destruction	 CPA 7
Thurs, Feb 19	Primack Chapter 10	Human causes of extinction: over-exploitation, disease, and invasive species	CPA 8
Week 6 Tuesday, Feb 24	Primack Chapter 11	Problems of small population size	CPA 9
Thurs, Feb 26 *R&F, Feb 26 & 27*	Chapters 13 & 14	Preserving species by staring new populations or captive breeding *Junior English Proficiency Exam*	CPA 10
Week 7 Tuesday, Mar 3		**Exam 2: Extinction, small populations, and preserving species**	
Thurs, Mar 5	Chapter 15 & Chapter 16 up to "Issues of reserve design" p. 377	Conserving ecosystems in protected areas (nature reserves)	CPA11

Day and Date	Reading	Topic	Assignment due
Week 8 (midterms) Tuesday, Mar 10	Chapter 16 from p. 377 and Chapter 17	Conserving metapopulations in networks of reserves	CPA 12
Thurs, Mar 12	Chapter 18	Contribution of non-reserve areas to conservation biology	CPA 13
March 16 – 20		*Spring break*	
Week 9 Tuesday, Mar 24	Chapter 20	Local and national conservation efforts	CPA 14
Thurs, Mar 26	Chapters 21 & 22	International conservation & the future of conservation biology	CPA 15
Friday, March 27 – Sunday, March 29	*Science department*	*Monterey Bay Aquarium field trip*	*all science, ODAL/Env Sci, and Sustainability students invited!!*
Week 10 Tuesday, Mar 31	*Fall 2015 advising starts*	*Last day to withdraw from any course!!!* **Exam 3: reserves, national, and international conservation**	
Thurs, April 2	Readings on Moodle	1st student presentation	Submit 2 questions and critiques at the end of class
Week 11 Tuesday, Apr 7	Readings on Moodle	2nd student presentation	Submit 2 questions and critiques at the end of class
Thurs, April 9	Readings on Moodle	3rd student presentation	
Week 12 Tuesday, Apr 14	Readings on Moodle	4th student presentation	Submit 2 questions and critiques at the end of class
Thurs, Apr 16	Readings on Moodle	5th student presentation	
Week 13 Tuesday, Apr 21	Readings on Moodle	6th student presentation	Submit 2 questions and critiques at the end of class
Thurs, Apr 23	Readings on Moodle	7th student presentation	
Week 14 Tuesday, Apr 28	Readings on Moodle	8th student presentation	Submit 2 questions and critiques at the end of class
Thurs, Apr 30	Readings on Moodle	9th student presentation	
Week 15 Tuesday, May 5	Readings on Moodle	10th student presentation	Submit 2 questions and critiques at the end of class
Wed and Thurs, May 6 & 7	*Reading days*	*Study for final exams and/or complete final class projects or papers*	
Thursday, May 7	*5:00-9:00 p.m.*	*Student Symposium*	*TCES 139/141*
Friday, May 8	*Final exams begin*		
Mon - Wed	*Final exams continue*		
Tuesday, May 12	**11:30 AM – 2:30 PM**	**Conservation Biology Final Exam**	
Thursday, May 14	*Starting 4:30 p.m.*	*SNC Luau*	*Patterson patio and lawn*
Friday, May 15	*About 9 a.m.*	*Award ceremony, graduation rehearsal*	*Patterson Hall*
	Starting Noon	*Graduate picnic*	*Ski Beach*
Saturday, May 16	*Starting 10 a.m.*	*SNC Commencement*	*Patterson Lawn*