BIO 1005 – Ecology and Conservation

Point Loma Nazarene University, Fall 2019

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The earth is the Lord's and everything in it. Psalms 24:1

PLNU Mission: To Teach ~ To Shape ~ To Send
Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Course description
A wide-ranging exploration of major topics in ecological science relating to current issues in conservation biology. Drawing from academic and applied fields, the course examines major concepts in conservation biology and how they impact society, public policy, wise management of natural resources, and ethical choices encountered in everyday life. Focus topics include biodiversity, habitat destruction, exotic species introductions, human harvesting, protected areas, and future prospects. Course approach emphasizes the process of science, critical thinking, active learning, social relevancy, and building connections between case studies and general concepts.

What will we do in this course? The course lecture and lab activities are structured in a way that allows students to develop biology knowledge through problem solving and group interaction. We will explore how an understanding of different concepts in biology are essential in order to explain the delicate balance between the living and nonliving world. When possible, students will explore phenomena in the lab before hearing lecture material. Lecture sessions will consist of brief 15-20 minutes lectures interspersed with in-class activities to give students a chance to think about and to apply what they are learning.

This course is one of the components of the General Education Program at Point Loma Nazarene University, under the category of ***Exploring an Interdependent World***. By including this course in a common educational experience for undergraduates, the faculty supports an introduction to the natural and social sciences as tools for exploring the world, with emphasis on collecting and interpreting data.

Course Outcomes
Upon completion of the course, each student will be able to:

- describe how interactions between organisms and their environment influence populations, communities, and ecosystems
- explain strategies for conserving biodiversity and protecting or restoring ecosystems
- articulate and defend a position on environmental stewardship drawing on both biological and world views
- design and conduct an independent investigation applying the processes and tools of scientific inquiry (both hypothesis testing and discovery science) to test biological hypotheses
- prepare and analyze graphs drawing valid scientific conclusions

General Education Learning Objective (GELO) Assessment: In this course, select questions on the final exam will be used to assess progress on GELO 1d - Critical Thinking: "Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions".

Schedule

Lectures will be given on Tues & Thurs from 9:30-10:45am in Latter Hall, room 106.

Lab Section 1 will be on Mondays from 1:00-3:30pm in Rohr Science, room 40 (basement).

Lab Section 2 will be on Mondays from 3:30-6:00pm in Rohr Science, room 40 (basement).

Office hours

Regular office hours are: Tuesday, 12:00-2:00pm & Wednesday, 10:35-11:45am
If my office hours are not convenient for you, you may also contact me via e-mail or phone to ask a question or to set up an appointment.

Books for the course

There are three sources for reading in this course: one "over-the-counter" book, several internet websites, and a lab manual. This lab manual is mandatory; you must have your own copy and bring it everyday to class. There will not be a traditional textbook for this course. You will be assigned various websites to read from throughout the course.

Book: ***Saving God's Green Earth,*** by Tri Robinson, (ISBN 0-9748825-8-5)

Lab Manual: Course Pack, created by me and customized for this course. Purchase through UniversityReaders.com

Grading

1. Weekly Quizzes (10%). Quizzes will cover both the content and the reading material. Most of the time we will have quizzes at the start of lab.
2. Assignments and projects (20%). There will be many homework assignments. Some of them will be collected while others will not. You are expected to complete all of the assignments in a timely fashion. There will be a few *special* projects throughout the semester (e.g. a formal lab report, a service learning project, presentations, etc.).
3. Three examinations (30%) and a Final (20%)
4. Laboratory Grade (20%). You are required to attend all lab sessions. Attendance, participation, and lab homework will determine your lab grade for the semester.

Grades will be given on the basis of earned points as a percentage of total points possible.

Grading scale:

A	90%	A "+" will be assigned to the upper 2% in each range (except
B	80%	for A+ which can't be used), and a "-" will be assigned to the
C	70%	lowest 2% in each range.
D	60%	Examples: 81% = B- 69% = D+
F	50%	

Late work: Regular assignments turned in late will be graded as follows: up to 2 days late = 50% reduction, more than 2 days late = no credit.

Important dates

Last day to add the class…….9/13/19

Last day to drop the class……11/8/19

Tentative exam dates

Exam 1……..10/1/19

Exam 2……..10/31/19

Exam 3……..12/3/19

Final……12/17/19, Thursday, 10:30am-1:00pm

Holidays…….11/27-11/30/19

**Special Lab date: Monday, 11/11/19 we will walk down to the intertidal.

Schedule of Topics*

Week	Topic
1	What are the connections between living and nonliving things?
2	Ecosystems: Who are the players?
3	What do decomposers really do?
4	What's in the food we eat?
5	How do animals get energy from eating?
6	What role do producers play in ecosystems?
7	What are the effects of pollution on ecosystem functioning?
8	How do matter and energy flow in living systems?
9	How does human population growth affect ecosystems?
10	Are agricultural practices sustainable?
11	What is biodiversity & how do we manage it? Poster grading
12	What are the effects of invasive species?
13	How do we make conservation decisions? & Holiday week
14	What is global warming real and what effect might it have on ecosystems?
15	What are some alternatives to fossil fuel?
	Final exam: Tuesday 12/17, 10:30-1pm

*this schedule is subject to change, and I guarantee it will change.

EXAMS

Final Exam Policy: Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the Class Schedules site. No requests for early examinations or alternative days will be approved.

Students are expected to take the mid-semester exams on the days scheduled unless they have an *excuse cleared by the instructor no later than the class preceding the exam*. If there is an approved conflict you will be expected to take the exam **prior to** the scheduled time. If something unexpected happens, we will make appropriate arrangements at that time. Un-excused misses will result in a zero grade. Makeup exams may not be the same as the original and will generally be more difficult in nature.

You will have **two weeks** from the time exams are handed back to discuss possible corrections, after which the **grade becomes permanent.**

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog.

See Academic Policies for definitions of kinds of academic dishonesty and for further policy information.

STUDENT CONDUCT

Dishonest behavior will be dealt with firmly by the Academic Provost. Cheating is inconsistent with the Christian lifestyle and the tenets upon which PLNU is based. Just as it is not tolerated in society, it will not be tolerated in this class. Academic dishonesty is defined above. Violations of academic honesty include cheating, plagiarism, falsification, aiding academic dishonesty, and malicious interference. If you are found to be involved in a situation involving academic dishonesty I will assign a failing grade for (a) that particular assignment or examination, and/or (b) the course.

Participation and cooperation. In an effort to create the best learning environment possible, all students will be assigned to work in a group – whether in the lab or lecture. You may be surprised how much you can learn from one another, especially from people who you may not have chosen to work with. You are expected to show respect to your classmates and instructors by listening when others are speaking, refraining from discussing non-related issues during class, and not belittling the opinions of others, even when you disagree. Behavior intended to embarrass or ridicule others will not be tolerated and will have serious consequences. Likewise, gossip has no place in the Christian classroom.

Although you may discuss readings and lecture material among yourselves, I expect that you will each do your own work. Each assignment (in its entirety) must be written in your own words, and no electronic files should be exchanged. Another form of plagiarizing would be to copy and paste answers from a reading which involves using someone else's words as if they were your own. Much of the learning process involves articulating the answer in your own words, and bypassing this step will almost guarantee an inadequate understanding of the material. It is also plagiarism if you use old homework, lab reports, exams, etc. (from previous Bio105 courses or students) to get ideas for how to complete current homework, labs, and exams. Lastly, recycling a paper written for another class for your term paper is also considered plagiarizing.

PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center (or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See Academic Policies in the Undergraduate Academic Catalog.

Because lab sessions are 2.5 hours, missing a lab counts as two (2) absences. Since we only meet twice a week for 100 minutes each time, arriving late or leaving early is considered a ½ absence. There are no allowed or excused absences except when absences are necessitated by certain university-sponsored activities and are approved in writing by the Provost.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU CANVAS SUPPORT

If you have questions about the content you find in my Canvas course or need clarification on assignment instructions please let me know. If you are unsure how to use any given feature in Canvas you will find the Canvas Guides to be a very helpful resource. If you cannot access something in my Canvas course or it appears that some part of the course is not working properly, please contact the Office of Instructional Technology for support at oit@pointloma.edu. Include specific information in the request (course ID, section, assignment or module name, etc.) to expedite the troubleshooting process. Screenshots are super helpful!