



Point Loma Nazarene University  
Biology Department  
BIO6068 Evolutionary Biology  
3 Units

Summer 2022 | Session 1  
May 9 - July 3

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Office hours: By appointment on Zoom, as needed

### 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 is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

### COURSE DESCRIPTION

The concept of evolution is viewed as the central theme unifying all of biology. In this course evolutionary processes will be discussed in their genetic, historical, religious, and ecological contexts. Topics covered include the agents of evolution, speciation, macroevolutionary trends in evolution, human evolution, and the relationship between scientific understandings of evolution and Christian concepts of creation. These topics will be addressed from the perspective of teaching for conceptual understanding. The class includes a combination of lecture, discussion, lab, data analysis, and online simulations.

### COURSE LEARNING OUTCOMES

1. You will be able to explain the central concepts relating to the mechanisms of biological evolution and current understanding of the key events in the evolutionary origin of our own species.
2. You will demonstrate an understanding of typical experimental methods and data analysis used in the study of biological evolution.
3. You will analyze and present representative research papers in evolution.
4. You will access and use data and journals used in evolutionary biology.
5. You will examine the science and faith relationship in the context of evolutionary biology.

### REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

All readings will be posted in Modules and will be accessible online. There are no texts to purchase for this course. The primary online textbook is [The Princeton Guide to Evolution](#) which

you can access through the PLNU library. You will need your login and password every time you open it.

### COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class, meaning over the course of 8 weeks, you will be completing 112.5 hours of coursework (3 units x 37.5 hours). This course will be front-loaded with most of the work spanning the first 4 weeks (~90.5 hours), and the second 4 weeks consisting of labs and some prep work (~22 hours). Specific details about how the class meets the credit hour requirement are provided in the weekly overviews and activities.

### ASSESSMENT AND GRADING

**Journal Analysis:** Once per week you will be assigned an article to analyze. You will be asked to identify the main concepts and qualitatively assess the claims and evidence in the article. The analysis instructions and rubric remain the same each week.

**Discussions and Assignments:** There are 8 hours of work assigned each Mon, Wed, and Fri. This work will be due 48 hours later. There will be at least one discussion board each week and many smaller assignments where you will engage with a simulator, analyze data, or read from a textbook or article and respond to questions. There will be short 10 to 15 minute lectures interspersed throughout.

**Exams:** There will be five Weekly Review Quizzes; one at the close of each week. There is no final exam.

Journal Article Analysis (individuals)..... 25%  
Class assignments and Discussions (individuals or pairs)..... 50%  
Weekly Reflection Quiz: five (5) @ 5% each (individuals)..... 25%  
TOTAL 100%

Student grades will be posted in the Canvas grade book no later than midnight on Tuesday of each week beginning in Week Two of this course. It is important to read the comments posted in the grade book as these comments are intended to help students improve their work. Final grades will be posted within one week of the end of the class. Grades will be based on the following:

#### Standard Grade Scale Based on Percentages (rounding up a 0.5)

A	B	C	D	F
A 93-100	B+ 87-89	C+ 77-79	D+ 67-69	F Less than 59
A- 90-92	B 83-86	C 73-76	D 63-66	
	B- 80-82	C- 70-72	D- 60-62	

### STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the

student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

### **INCOMPLETES AND LATE ASSIGNMENTS**

All assignments are to be submitted/turned in by the due date posted in Canvas. This is a graduate course and as such, assignments should not be late. Incompletes will only be assigned in extremely unusual circumstances.

### **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 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](#) [Links to an external site.](#) for definitions of kinds of academic dishonesty and for further policy information.

### **PLNU ACADEMIC ACCOMMODATIONS POLICY**

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

### **PLNU ATTENDANCE AND PARTICIPATION POLICY**

Students taking online courses are expected to attend each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes posting in a graded activity in the course. (Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)

Students who do not attend at least once on any 3 consecutive days will be issued an attendance warning. Students who do not attend at least once on any 7 consecutive days will be dropped from the course retroactive to the last date of recorded attendance.

## **SPIRITUAL CARE**

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain, or have prayer requests you can contact the [Office of Spiritual Development Links to an external site.](#)

## **USE OF TECHNOLOGY**

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements Links to an external site](#) information.

Additionally, students are required to have headphones, speakers, microphones, or webcams compatible with their computers available to use. Please note that any course with online proctored exams requires a computer with a camera (tablets are not compatible) to complete exams online.

*Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your classwork.*

## **COURSE OVERVIEW**

<b>Week</b>	<b>Dates</b>	<b>Topics</b>	<b>Labs</b>
Week 1	May 9-15	Introduction and overview	Phylogenetic Tree Building (by hand)
Week 2	May 16-22	Fossils, plants, evolution	Phylogenetics with software
Week 3	May 23-29	Human evolution – “Marcoevolution”	N/A
Week 4	May 30-June 5	Cooperative and coevolution	N/A
Week 5	June 6	In-person	Hominin Skull lab
Week 6	June 13	In-person	Exploring extinction with Mollusks
Week 7	June 20	In-person	Visit the Natural History Museum (Actual date TBD - Sat. June 25?)
Week 8	June 27	Flex week – Discussion of Natural History Museum, bringing course to a close	