POINT LOMA NAZARENE UNIVERSITY

Department of Biology

School of STEM

BIO4099: Research in Biology

Section 10

1 unit per 50 hours of research

Fall 2026

Meeting location: Rohr Science 188

Meeting days/times: Once a week or as required

Final Exam: N/A

Instructor title and name:	Dr. Saira Justin, Assistant Professor
Email:	sjustin@pointloma.edu
Office location and hours:	Monday 1:30 pm – 2:30 pm Tuesday 11:30 am – 12:30 pm Wednesday 2:10 pm – 2:40 pm or by appointment (via email) Rohr Science 188

COURSE DESCRIPTION

Independent investigation, under the supervision of a member of the biology faculty. May be repeated for a total of six units, but no more than three units may count toward upper-division requirements for graduation. Offered every year. Prerequisite(s): Junior or Senior standing and consent of instructor.

Course Learning Outcomes: Research students will be able to

1. apply skills and knowledge learned in science courses to research situations.
2. reinforce and expand previous conceptual learning through research experiences.

Evaluation and Grading: Your grade will be based on hours worked, work ethic, and a final report, as follows.

- Hours worked: 25%.
- You must keep track of your hours worked a report the information to your faculty mentor.
- Work ethic: 50% (Work ethic includes effort, promptness, collegiality, and care in completing experiments.)
- Final report: 25% (This can take various forms depending on your faculty mentor. It could include a lab notebook, a poster presentation, or a short paper, etc.)

Grade Scale Based on Percentages

A	B	C	D	F
A 92-100	B+ 88-89	C+ 78-79	D+ 68-69	F 59 or lower
A- 90-91	B 82-87	C 72-77	D 62-67	
	B- 80-81	C- 70-71	D- 60-61	

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.

GENERAL PLNU POLICIES

Content Warning

We acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive various types of information. In BIO212/BIO2012L, all the class content, including that which may be intellectually or emotionally challenging, has been intentionally curated to achieve the learning goals for this course. The decision to include such material is not taken lightly. These topics include issues related to evolution and phylogenetics. If you encounter a topic that is intellectually challenging for you, it can manifest in feelings of discomfort and upset. In response, I encourage you to come talk to one of us or your friends or family about it. Class topics are discussed for the sole purpose of expanding your intellectual engagement in the area of biology, and we will support you throughout your learning in this course.

General Course Concerns

If you have a concern related to the content or structure of this course, please bring your concern(s) to me (the instructor) in a timely manner, so that we have the opportunity to discuss your thoughts and work together toward a solution.

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 you have questions, a desire to meet with the chaplain or have prayer requests you can contact your professor or the Office of Spiritual Life and Formation.

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 Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.
Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

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. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. Please consult the Academic Honesty Policy in the University Catalog for definitions of kinds of academic dishonesty and for further policy information.

PLNU Academic Behavior Policy
Both faculty and students at Point Loma Nazarene University have the right to expect a safe and ordered environment for learning. Students are expected to take the initiative to learn and conduct themselves in a mature and civil manner in the classroom environment. Any student behavior that is disruptive or threatening is a serious affront to Point Loma Nazarene University as a learning community. Students who fail to adhere to these behavioral standards may be subject to disciplinary action, including removal from class or further university sanctions. For a full definition of disruptive behavior, response procedures, and the appeal process, please consult the Academic Behavior Policy in the University Catalog.

PLNU Artificial Intelligence (AI) Policy
The use of Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro, GrammarlyGo, Perplexity, etc.) is prohibited in this course for any aspect of your work, including idea generation, drafting, editing, or final submissions. This course is designed to assess your independent critical thinking, writing, and research skills without the assistance of AI technologies. Any reliance on AI tools in this course is subject to an academic honesty violation. You will be notified if there are any exceptions or policy changes.

PLNU Academic Accommodations Policy
PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center, by email or phone at 619-849-2533. Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines approved accommodations. Professors are able to view a student's approved accommodations through Accommodate.
PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their approved accommodations in that particular course. Accommodations are not retroactive; as such, clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.
Students who need accommodations for a disability-related need should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. In accordance with ADA, accommodations cannot constitute a fundamental alteration to course outcomes; therefore, planning ahead is vital in establishing appropriate accommodations for equal access to this course. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC eligibility process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Language and Belonging
Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice-free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age,

disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality. If you (or someone you know) has experienced other forms of discrimination, you can find more information on reporting and resources via the Nondiscrimination and Anti-harassment Policy.

Sexual Misconduct and Discrimination

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services or consult the list of campus pastors. If you (or someone you know) has experienced other forms of discrimination or bias, you can find more information on reporting and resources via the Nondiscrimination and Anti-harassment Policy.

PLNU Attendance and Participation Policy

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an "F" grade.

Loma Writing Center

Getting feedback from the Loma Writing Center while you're in the process of working on an assignment is a great way to improve the quality of your writing and develop as a writer. You are encouraged to talk with a trained writing consultant about getting started on an assignment, organizing your ideas, finding and citing sources, revising, editing for grammar, and polishing final drafts, and more.

Walk-ins are welcome, but we recommend making an appointment in advance. For information about how to make in-person or online appointments, see Loma Writing Center webpage or visit the Loma Writer Center on the first floor of the Ryan Library, room 221.

- Appointment Calendar
- Website
- Email