



***Biology**

***BIO1006: Global Health and Pathogens**

***4 units**

Spring Quad 2, 2024

Meeting days: Optional Zoom Tuesday Review Session/Office Hours	Instructor: Dr. Dawne Page Professor & Co-Chair of Biology
Meeting times: Tuesday, 7-8 pm (optional)	The best way to communicate with me is by messaging me through Canvas.
Meeting location: Zoom	Email: dawnepage@pointloma.edu
Final Exam: Honorlock Exam, must be completed by Sunday, April 5, 11:59 pm	

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: An examination of current topics in global health as they impact society, bioethics, and creation care. The course addresses the topics of the major pathogens that threaten global health, the basic immune response to a pathogen, how vaccines work, and challenges to fighting pathogens on a global level. The course approach emphasizes critical thinking, active learning, social relevancy, and building connections between case studies and general concepts of biology. Online.

- Required Texts:***
- 1) Forgotten People, Forgotten Diseases: The Neglected Tropical Diseases and their Impact on Global Health and Development, 3rd. ed, Peter J. Hotez (ISBN 978-1683673897)
 - 2) Twelve Diseases that Changed our World, Irwin W. Sherman (ISBN 978-1555814663)
 - 3) Spillover: Animal Infections and the Next Human Pandemic, David Quammen (ISBN 978-0393066807)
 - 4) Other selected readings will be provided as pdf files.
- Note:** The first 3 books are available as new or used.

Course Learning Outcomes (CLOs): Students will be able to

1. list the major pathogens that threaten global health.
2. describe the differences between viruses, prokaryotic pathogens, and eukaryotic pathogens.
3. describe a basic immune response to a pathogen.
4. describe how a vaccine works and why some pathogens are challenging to develop vaccines for.
5. describe other challenges to fighting pathogens on a global level.
6. effectively express ideas and information to others through written communication.
7. examine, critique, and synthesize information in order to arrive at reasoned conclusions.

Foundational Experience Learning Outcome (FELO): Students will be able to examine, critique and synthesize information in order to arrive at reasoned conclusions. (Critical Thinking, 1d). The signature assessment is in the Final Exam.

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 four-unit class delivered over eight weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their course work. The overall time expectations for this course are shown below and weekly expectations are found in each weekly introduction.

Activities & Assignments	Hours
Readings	36
Online Discussions/Responses	36
Assignments	34
Preparation for and Taking Quizzes, Surveys, and Exams	21
Video Lectures/Animations/Office Hours	15
Final Project	8
Total Hours	150

Assessment and Grading: 1000 points total

Your 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 feedback provided as these comments are intended to help you improve your work. Final grades will be posted within ten days of the end of the class. Multiple measures of evaluation are used in the course, allowing students opportunities to demonstrate their learning in more than one way, and giving consideration to individual learning styles.

1. **Discussion and Responses** (25%)
2. **Individual Assignments and Group Assignments** (30%)
3. **Quizzes** (10%)
4. **Final Exam** (20%)
5. **Final Project** (15%)

At the end of the semester, a letter grade for the course will be based on the following grading scale:

A	B	C	D	F
	B+: 88-89.9%	C+: 78-79.9%	D+: 68-69.9%	≤59.9%
A: 92-100%	B: 82-87.9%	C: 72-77.9%	D: 62-67.9%	

A-: 90-91.9%	B-: 80-81.9%	C-: 70-71.9%	D-: 60-61.9%	
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COURSE REQUIREMENTS

Notes on Group Assignments: Since the class is so short, students will be assigned into groups at the beginning of the class, and they will keep these groups for the whole time. Importantly, each person will complete a group member evaluation at the end of the course.

Notes on Discussion Boards: Students must always post before they can see others' posts. They must always respond to the posts of two classmates.

1. **Discussion and Responses** (250 pts) – Each week students will participate in online discussions with classmates, which are related to the week's readings and content. These discussions replace the interactive dialogue that occurs in the traditional classroom setting.

These assignments are interspersed throughout every module. They include discussion boards and life application assignments to Scripture. Reminders of due dates can be found in the modules as well as the calendar on Canvas. (M indicates Module number; D indicates Discussion number; LA indicates Life Application number, e.g. M1D1.)

2. **Individual Assignments** (170 pts) – These are written assignments that are due throughout the course. Reminders of due dates can be found in the modules as well as the calendar on Canvas. These assignments must reflect college-level writing and critical thinking. (M indicates Module number, and A indicates Assignment number, e.g. M1A1.)
3. **Collaborative Group Assignments and Evaluation** (130 pts) – Due to the complex nature of some of the readings, these assignments are designed so that a group of students can work together on the assignment and bounce ideas off of each other. You will be assigned into groups at the beginning of the course, and you will keep your same group for the whole course. A confidential group member evaluation will be turned in at the end of the course. (M indicates module number, and A indicates assignment number, e.g. M1A2.)
4. **Quizzes** (100 pts) – There are 5 quizzes to test your understanding of some of the readings. (M indicates Module number, and Q indicates Quiz number, e.g. M1Q1.)
5. **Final Exam** (200 pts). The final exam will be cumulative and will focus on the major concepts that we covered throughout the course. This exam will occur via Honorlock, and you need the **Chrome browser and a webcam** in order to make that work. **The Final Exam represents 20% of the overall course grade.**
6. **Final Project** (150 pts). The final project for this course will be a PowerPoint presentation on a disease (CLO6,7). In this presentation, the students will present information on a pathogen that threatens global health (CLO1). They will describe the type of pathogen it is (CLO2), and describe how the immune system responds to the pathogen (CLO3). They will discuss whether a vaccine is being developed for this pathogen (CLO4) and what the challenges are in treating people in developing countries (CLO5).

The final project for this course serves as an opportunity for you to apply your knowledge of Informal Interpretive Communication through a class presentation. The purpose of the final project is for you to culminate the learning achieved in the course. **It represents 15% of the overall course grade.**

COURSE POLICIES

USE OF TECHNOLOGY

In order to be successful in the online or hybrid environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information. Additionally, students are required to have headphone speakers, microphone, or webcams compatible with their computer available to use. Please note that any course with online proctored exams require 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 class work.

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. **In particular, all homeworks, assignments, quizzes, and exams are owned by Dr. Page and may not be shared with other individuals or groups outside of the students registered for BIO1006, Spring, 2024.**

ARTIFICIAL INTELLIGENCE (AI) POLICY

Use of Artificial Intelligence (AI) tools (e.g., ChatGPT, iA Writer, Marmot, Botowski, or any other AI tool) is not permitted, and use of these tools will be treated as academic dishonesty.

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.

ATTENDANCE

This course will be delivered **asynchronously** and attendance will be determined by submitting the assignments by the posted due dates. A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these standards will result in an absence for that day. **This means you will need to log into Canvas and post an assignment or response on at least three days in each week.** Any day missed below this minimum requirement will count as an absence. 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.

If you desire to succeed in this course, you will need to organize your schedule each week so you are able to devote time each week, to reading, responding and completing assignments in the course. The weekly demands are great and you must remain self-motivated and structure your time wisely in order to succeed.

INCOMPLETE AND LATE ASSIGNMENTS

All assignments are to be submitted by the due dates posted. There will be a 10% reduction of possible points for each day an assignment is late. If missing assignments result in your failure to meet learning outcomes, the instructor may give up to a letter grade reduction on the final grade in addition to the loss of points for missing work. **No assignments will be accepted after midnight on Sunday night, April 7, the last day of class. There are no extensions beyond the final day of class and receiving an incomplete is not an option in a fully online course.**

While there are due dates for weekly assignments, you are welcome to post your work earlier in the week. **In our discussions, late work means that others may not have the opportunity to respond to your comments.** It also means that you will not have the benefit of as much interaction with other students as you will have if your assignment is posted on time. If you know you will be away on the day your assignment is due, please post your work before you leave.

Assignments will be considered late if posted after midnight Pacific Standard Time on the day they are due.

PLNU ACADEMIC ACCOMMODATIONS POLICY

Pursuant to Section 504 of the Rehabilitation Act and other applicable laws, PLNU prohibits discrimination and harassment against a qualified individual with a disability. While all students are expected to meet the minimum standards for completion of each course as established by the instructor, students with disabilities may request academic adjustments, modifications or auxiliary aids/services. The PLNU Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2533), is the point of contact for disability issues for all PLNU undergraduate and graduate students, including students enrolled at the Mission Valley Campus and College of Extended Learning students enrolled in PLNU courses at Community College satellite campuses. Current and prospective students seeking an accommodation must follow the reasonable accommodation procedures which may be found on the [EAC website](#).

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 EAC 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 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.

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 your professor or the [Office of Spiritual Life and Formation](#).

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.

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.

You may report an incident(s) using the [Bias Incident Reporting Form](#).

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 at pointloma.edu/Title-IX. 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 at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix.