

BIOLOGY 4095: Molecular Biology of Infectious Disease (3 units)
Syllabus, Fall, 2022

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Text: To Catch a Virus, ISBN 9781555815073

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: This course will take a detailed look in several historic and modern diseases from infectious sources. Each disease explored will include the molecularly focused investigation of disease pathogenesis, transmission, and if applicable treatment. This course will include (but not limited to) the study of influenza, prions, plague, and SARS-CoV-2. Historical and modern limitations on how infectious diseases are studied will also be highlighted. Prerequisite(s): Genetics

Meeting Times: October 24-27, October 31-November 3, November 7-10, and November 14.

Course Learning Outcomes: Students will be able to:

1. Explain and describe molecular basis of disease pathogenesis, and transmission for selected infectious agents.
2. Discuss historical and modern limitations on how infectious diseases are studied and interacted with as a society.
3. Read primary literature to integrate new concepts with existing coursework, and orally communicate novel findings and future directions.

Integration with Scotland: Historical diseases selected for this course have had large societal impact on Scotland (smallpox, cholera, and plague). Scotland also has an intimate relationship with prion diseases including significant infections and seminal research on scrapie, bovine spongiform encephalopathy (mad cow), and Creutzfeldt-Jakob Disease (CJD). Influenza is worldwide seasonal pandemic that also affects Scotland. Historic and modern primary literature from Scottish and UK researchers will be emphasized.

Attendance and Participation Policy: Regular and punctual attendance at all **synchronous** class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), 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 drop date or, after that date, receive the appropriate grade for their work and participation. In some courses, a portion of the credit hour content will be delivered **asynchronously** and attendance will be determined by submitting the assignments by the posted due dates. See [Academic Policies](#) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Participation and Cooperation: Class participation counts for 10% of your grade. Much of this course will be interactive. You will be expected to work online. In addition, you are expected to actively participate in class discussions. We will be using a semi-discussion style format, and we expect you to volunteer to answer questions and also to ask questions whenever you are confused. You should read ahead so that you can participate effectively and for your own learning benefit.

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](#) information. Additionally, students are required to have headphone speakers compatible with their computer available to use.

Academic Accommodations: 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 accommodations. At Point Loma Nazarene University, these students are requested to file documentation during the first two weeks of the semester with the Academic Support Center (ASC), located in the Bond Academic Center. This policy assists the University in its commitment to full compliance 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. Once the student files documentation, the ASC will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual learning needs of the student. For more details see the PLNU catalog [Accommodations](#).

Students with learning disabilities who may need accommodations should also discuss their needs with the instructor during the **first week** of class.

Academic Honesty: 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.

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, and laboratories are owned by Dr. Koudelka, and may not be shared with other individuals or groups outside of the students registered for the BIO4095, Fall, 2022 section. It is a violation of copyright law to otherwise distribute these materials in any form.

Grading: (approximate; I reserve the right to adjust percentages as appropriate for how the course proceeds)

Class Attendance and Participation	10%
Weekly Assignments	50%
Primary Literature Presentation	15%
Final Exam (14/11/22)	25%
Total	100%

Final examination 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.