

## PHE 510 Final Project Guidelines and Rubric

### Overview

Public health focuses on the study and prevention of communicable diseases through aspects of disease prevention, environmental protection, and health. Throughout history, public health has been revolutionized with the development of powerful techniques in molecular and cellular biology, genomics, epidemiology and bioinformatics. These developments have allowed for further examination of the biological basis of human disease, therefore informing the actions and techniques public health professionals have utilized throughout the spectrum of public health practice around the globe.

In this project, you will perform a case analysis focused on a biologic agent. You will select one of the provided case scenarios, or use your own case with instructor approval, as the focus of your case analysis. You will research the agent, looking at influencing factors and impact on public health, and will evaluate mitigation strategies. Using this analysis, you will determine an appropriate strategy to combat the biologic agent and the specific role of public health in these efforts.

The project is divided into **four milestones**, which will be submitted at various points throughout the course to scaffold learning and ensure quality final submissions. These milestones will be submitted in **Modules One, Two, Five, and Seven**. The final product will be submitted in **Module Nine**.

In this assignment, you will demonstrate your mastery of the following course outcomes:

- Analyze the role of biology in the model of public health for how it informs program planning and implementation
- Differentiate among effects of biological, chemical and physical agents on human health to inform mitigation strategies for associated risks
- Assess the relationship between disease prevention, control, and management programs on current public health laws, policies, and regulations for how they impact one another
- Determine strategies for preventing and controlling disease by analyzing the biological principles of disease
- Assess the role of pathogen types in developing strategies for cures and treatments of diseases worldwide

### Prompt

**Your case analysis should address the following prompt:** You will select a case scenario focused on a biologic agent and perform a case analysis. You will analyze the influences on the agent, the impact of the agent on society, and determine an appropriate strategy to combat the agent.

Specifically, the following **critical elements** must be addressed:

- I. **Introduction:** In this section you will set the stage for your analysis by describing the public health issue, its development, and its concern to public health.
  - A. Describe the **public health issue** in your selected scenario and its importance and relevance to the world.
  - B. Outline how the **issue** has **developed**, providing specifics around the biological and molecular components.

- C. Explain why, based on its biological and molecular components, this pathogen is of **concern to public health**.
- D. Analyze how **biology** assists public health in planning, implementing and evaluating local or global public health programs and interventions. In other words, analyze the relationship between biology and public health's attempts to mitigate diseases.

II. **Strategic Analysis:** In this section you will analyze the case, looking specifically at the impacts of the biologic agent on society and the effectiveness of attempted mitigation strategies.

- A. Identify the type of pathogen and its particular **characteristics**, justifying your identification. How did you identify the type of pathogen?
- B. Describe the **ecological principles** of the pathogen and how these principles affect the likelihood of control.
- C. Describe how the pathogen **negatively impacts** the health of the community. How is the pathogen transmitted and how is this related to the pathogen's composition?
- D. Differentiate between how **biological, chemical, and physical agents** affect human health. What specific characteristics exist for the different agents?
- E. Assess how **mitigation strategies differ** between biological, chemical, and physical agents, and explain why. How do the specific characteristics of the agents inform the mitigation strategies? Provide examples related to your specific biologic agent.
- F. As this is a biological agent, describe the **specific precautions** or **strategies** that must be taken into account in mitigating this specific agent. What special precautions must be considered when attempting to mitigate biologic agents?
- G. Describe specific strategies used by **public health programs** for preventing and controlling the specific pathogen in local and global settings.
- H. Assess the **role of the specific pathogen type** and its associated characteristics in the public health programs targeting the specific pathogen. How do the programs target their strategies to address the specific pathogen?
- I. Assess the **mitigation strategies** that have attempted or are attempting to address this disease, for their strengths and gaps in preventing and controlling this disease. Specifically, how do the strategies address the biologic principles of the disease?
- J. Explain the specific public health **laws, policies, and regulations** related to the programs that combat the identified pathogen.
- K. Assess the **impact** of the identified public health laws, policies, and regulations on the public health **programs** in place to combat the specific pathogen. What steps do the programs take to ensure they are meeting the specific regulations?

III. **Conclusion:** Now that you have analyzed the case, you will present your recommendations.

- A. Based on your strategic analysis of the situation, **determine** the most appropriate **strategy** to combat this biologic pathogen, justifying your determination.
- B. Assess the **impact** of the public health programs in place to combat this pathogen on public health **laws, policies, and regulations**. Were new policies created because of this issue?

## Milestones

### Milestone One: Case Study Selection

In **Module One**, you will submit a paper introducing the public health issue in your selected case study. **This milestone will be graded with the Milestone One Rubric.**

### Milestone Two: Introduction

In **Module Two**, you will submit a paper describing the health issue, how the issue developed, why the pathogen is a concern based on its molecular and biological components, and a general discussion of how biology informs public health programs and interventions. **This milestone will be graded with the Milestone Two Rubric.**

### Milestone Three: Strategic Analysis I – Pathogen Characteristics

In **Module Five**, you will submit a paper describing the characteristics of the pathogen in your selected case study. First, you will identify the pathogen and justify your identification, describe the ecological principles that affect the pathogen, and describe the negative impact. Then, you will discuss, in general terms, the differences between biological, chemical, and physical agents and mitigation strategies for each type. Finally, you will describe the specific precautions and strategies that must be taken into account when considering the pathogen you have identified. **This milestone will be graded with the Milestone Three Rubric.**

### Milestone Four: Strategic Analysis II – Public Health Programs and Strategies

In **Module Seven**, you will submit a paper describing the public health programs and their mitigation strategies regarding the pathogen in your case study. Specifically, you will address specific strategies that have been utilized before and assess them for strengths and weaknesses in preventing or controlling the disease. **This milestone will be graded with the Milestone Four Rubric.**

### Final Submission: Case Analysis

In **Module Nine**, you will submit your final project. It should be a complete, polished artifact containing **all** of the critical elements of the final product. It should reflect the incorporation of feedback gained throughout the course. Please be sure to incorporate the critical elements J and K from Section II, which you submitted in the Module Eight journal, and add a Conclusion section. **This submission will be graded with the Final Project Rubric.**

## Deliverables

Milestone	Deliverable	Module Due	Grading
One	Case Study Selection	One	Graded separately; Milestone One Rubric
Two	Introduction	Two	Graded separately; Milestone Two Rubric
Three	Strategic Analysis I – Pathogen Characteristics	Five	Graded separately; Milestone Three Rubric
Four	Strategic Analysis II – Public Health Programs and Strategies	Seven	Graded separately; Milestone Four Rubric
	Final Submission: Case Analysis	Nine	Graded separately; Final Project Rubric

## Final Project Rubric

**Guidelines for Submission:** Submit assignment as a Word document with double spacing, 12-point Times New Roman font, and one-inch margins. Your case analysis must be 8–12 pages in length (plus a cover page and references) and must be written in APA format. All references should be cited in APA format.

Critical Elements	Exemplary (100%)	Proficient (90%)	Needs Improvement (70%)	Not Evident (0%)	Value
<b>Introduction: Public Health Issue</b>	Meets “Proficient” criteria and is especially clear and detailed	Describes the public health issue and its importance and relevance to the world	Describes the public health issue and its importance and relevance to the world, but response is cursory or contains inaccuracies	Does not describe the public health issue and its importance and relevance to the world	4
<b>Introduction: Issue Developed</b> [PHE-510-01]	Meets “Proficient” criteria and demonstrates keen insight into the biological and molecular development of disease	Outlines how the issue has developed, providing specifics around the biological and molecular components	Outlines how the issue has developed, providing specifics around the biological and molecular components, but response is cursory or contains inaccuracies	Does not outline how the issue has developed, providing specifics around the biological and molecular components	6.13
<b>Introduction: Concern to Public Health</b> [PHE-510-01]	Meets “Proficient” criteria and demonstrates keen insight into the role of public health	Explains why the pathogen is of concern to public health	Explains why the pathogen is of concern to public health, but response is cursory or contains inaccuracies	Does not explain why the pathogen is of concern to public health	6.13

<b>Introduction: Biology</b> <b>[PHE-510-01]</b>	Meets “Proficient” criteria and demonstrates keen insight into the role of biology in public health	Analyzes how biology assists public health in planning, implementing, and evaluating local or global public health programs and interventions	Analyzes how biology assists public health in planning, implementing, and evaluating local or global public health programs and interventions, but response or reasoning is cursory or illogical	Does not analyze how biology assists public health in planning, implementing, and evaluating local or global public health programs and interventions	6.14
<b>Strategic Analysis: Characteristics</b> <b>[PHE-510-05]</b>	Meets “Proficient” criteria and demonstrates keen insight into the types of pathogens and their characteristics	Identifies the type of pathogen and its particular characteristics, justifying the identification	Identifies the type of pathogen and its particular characteristics, but with gaps in detail, accuracy, or support	Does not identify the type of pathogen and its particular characteristics	6.13
<b>Strategic Analysis: Ecological Principles</b> <b>[PHE-510-04]</b>	Meets “Proficient” criteria and demonstrates keen insight into the impact of pathogens on control	Describes the ecological principles of the pathogen and how the principles affect the likelihood of control	Describes the ecological principles of the pathogen and how the principles affect the likelihood of control, but response is cursory or contains inaccuracies	Does not describe the ecological principles of the pathogen and how the principles affect the likelihood of control	4.6
<b>Strategic Analysis: Negatively Impacts</b> <b>[PHE-510-05]</b>	Meets “Proficient” criteria and demonstrates keen insight into the impact of disease on the health of the community	Describes how the pathogen negatively impacts the health of the community, tying the biological composition to method of transmission	Describes how the pathogen negatively impacts the health of the community, tying the biological composition to method of transmission, but response is cursory or contains inaccuracies	Does not describe how the pathogen negatively impacts the health of the community	4.6
<b>Strategic Analysis: Biological, Chemical, and Physical Agents</b> <b>[PHE-510-02]</b>	Meets “Proficient” criteria and demonstrates keen insight into the differences between types of agents	Differentiates between how biological, chemical, and physical agents affect human health, specifying key characteristics for the agents	Differentiates between how biological, chemical, and physical agents affect human health, specifying key characteristics for the agents, but response is cursory or contains inaccuracies	Does not differentiate between how biological, chemical, and physical agents affect human health, specifying key characteristics for the agents	6.13
<b>Strategic Analysis: Mitigation Strategies Differ</b> <b>[PHE-510-02]</b>	Meets “Proficient” criteria and demonstrates keen insight into the differences in mitigation strategies depending on the agent	Assesses how mitigation strategies differ between biological, chemical, and physical agents, and explains why, providing specific examples related to the selected biologic agent	Assesses how mitigation strategies differ between biological, chemical, and physical agents, and explains why, but with gaps in detail, accuracy, support, or specificity to the selected biologic agent	Does not assess how mitigation strategies differ between biological, chemical, and physical agents	6.13

<b>Strategic Analysis: Special Precautions or Strategies</b> <b>[PHE-510-02]</b>	Meets “Proficient” criteria and demonstrates keen insight into the strategies necessary for mitigating biologic agents	Describes specific precautions or strategies necessary in mitigating the specific agent	Describes special precautions or strategies necessary in mitigating the specific agent, but response is cursory or contains inaccuracies	Does not describe special precautions or strategies necessary in mitigating the specific agent	6.14
<b>Strategic Analysis: Public Health Programs</b> <b>[PHE-510-04]</b>	Meets “Proficient” criteria and demonstrates keen insight into the strategies used for specific pathogens	Describes specific strategies used by public health programs for preventing and controlling the specific pathogen in local and global settings	Describes specific strategies used by public health programs for preventing and controlling the specific pathogen in local and global settings, but response is cursory or contains inaccuracies	Does not describe specific strategies used by public health programs for preventing and controlling the specific pathogen in local and global settings	6.13
<b>Strategic Analysis: Role of the Pathogen Type</b> <b>[PHE-510-05]</b>	Meets “Proficient” criteria and demonstrates keen insight into the role of the pathogen type in developing public health programs	Assesses the role of the specific pathogen type and its associated characteristics in the public health programs targeting the specific pathogen	Assesses the role of the specific pathogen type and its associated characteristics in the public health programs targeting the specific pathogen, but response is cursory or illogical	Does not assess the impact of the specific pathogen type and its associated characteristics in the public health programs targeting the specific pathogen	6.14
<b>Strategic Analysis: Mitigation Strategies</b> <b>[PHE-510-04]</b>	Meets “Proficient” criteria and demonstrates keen insight into the strengths and gaps of mitigation strategies in preventing and controlling disease	Assesses mitigation strategies for their strengths and gaps in preventing and controlling the pathogen, specifying how the strategies address the biologic principles of the disease	Assesses mitigation strategies for their strengths and gaps in preventing and controlling the pathogen, specifying how the strategies address the biologic principles of the disease, but with gaps in detail, accuracy, logic, or specificity to the biologic agent	Does not assess mitigation strategies for their strengths and gaps in preventing and controlling the pathogen	4.6
<b>Strategic Analysis: Laws, Policies, and Regulations</b> <b>[PHE-510-03]</b>	Meets “Proficient” criteria and demonstrates keen insight into the impact of laws on public health programs	Explains the specific public health laws, policies, and regulations related to the programs that combat the specific pathogen	Explains the specific public health laws, policies, and regulations related to the programs that combat the specific pathogen, but response is cursory or contains inaccuracies	Does not explain the specific public health laws, policies, and regulations related to the programs that combat the specific pathogen	6.13

<b>Strategic Analysis: Impact on Programs</b> [PHE-510-03]	Meets “Proficient” criteria and demonstrates keen insight into the impact of laws, policies, and regulations on public health programs	Assesses the impact of the identified public health laws, policies, and regulations on the public health programs in place to combat the specific pathogen	Assesses the impact of the identified public health laws, policies, and regulations on the public health programs in place to combat the specific pathogen, but response is cursory or contains inaccuracies	Does not assess the impact of the identified public health laws, policies, and regulations on the public health programs in place to combat the specific pathogen	6.13
<b>Conclusion: Determine Strategy</b> [PHE-510-04]	Meets “Proficient” criteria and demonstrates keen insight into appropriate strategies to combat biologic pathogens	Determines the most appropriate strategy to combat this biologic pathogen, justifying determination with strategic analysis	Determines the most appropriate strategy to combat this biologic pathogen, but with gaps in detail, accuracy, logic, or support	Does not determine the most appropriate strategy to combat this biologic pathogen	4.6
<b>Conclusion: Laws, Impact on Policies, and Regulations</b> [PHE-510-03]	Meets “Proficient” criteria and demonstrates keen insight into the impact of public health programs on public health laws, policies, and regulations	Assesses the impact of public health programs to combat the pathogen on public health laws, policies, and regulations	Assesses the impact of public health programs to combat the pathogen on public health laws, policies, and regulations, but response or reasoning is cursory or illogical	Does not assess the impact of public health programs to combat the pathogen on public health laws, policies, and regulations	6.14
<b>Articulation of Response</b>	Submission is free of errors related to citations, grammar, spelling, syntax, and organization and is presented in a professional and easy-to-read format	Submission has no major errors related to citations, grammar, spelling, syntax, or organization	Submission has major errors related to citations, grammar, spelling, syntax, or organization that negatively impact readability and articulation of main ideas	Submission has critical errors related to citations, grammar, spelling, syntax, or organization that prevent understanding of ideas	4
<b>Total</b>					<b>100%</b>