



UNC  
WORLD VIEW

## NC SCHOLAR OF GLOBAL DISTINCTION 2024

**Instructor: Dr. Patricia J. Williams**

**Department: Biology**

**Community College: Gaston College**

### **Course Description: Microbiology (BIO 275)**

This course covers principles of microbiology and the impact these organisms have on man and the environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills, including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms.

**Number of students enrolled in course:** 2 Approximately 24 for seated sections; 30 for online sections



## Description of Module:

Global Activities are developed within module 1, module 3, and module 5 of the microbiology course. The following modules cover the general topics described below:

**Module 1:** An Introduction to the Microbial World introduces students to the history and development of microbiology as a scientific discipline. Global activities within this module will focus on the history and development of microbiology in terms of the discovery and advancements of microbiology within Europe and the European Union.

**Module 3:** Epidemiology and Host Defenses introduces students to the history and development of the field of epidemiology. Global activities within this module will focus on the history, historical impact, and implications of pandemics throughout Europe and the European Union.

**Module 5:** Infections of the Digestive, Circulatory, and Nervous Systems introduces students to three of the essential body systems and the clinically significant microorganisms that invade and infect these systems. Global activities within this module will focus on current data trends in the European Union through the analysis of current data in the European Centers for Disease Control's Surveillance Atlas of Infectious Diseases.

## Student Global Learning Outcomes:

1. Students will be able to discuss critical historical advances in microbiology and epidemiology that emerged throughout Europe.
2. Students will be able to discuss the development of notable pandemics throughout Europe and describe these infectious diseases, their modes of transmission, virulence factors, disease hosts and reservoirs, societal impacts, management of the pandemic, and continued impact of historical pandemic on current epidemiological standards.
3. Students will be able to analyze and report on current data relating to infectious disease rates across Europe and the European Union.



## Student Global Learning Activities:

### Global Learning Activity:

#### Module 1 Historical Timeline of Advances in Microbiology and Epidemiology in Europe

Module 1 Global Learning Outcome: Construct a timeline of the historical advancements of microbiology and epidemiology within Europe and the European Union and how these advancements have shaped the global field of microbiology and epidemiology.

Global Learning Outcome 1 Alignment: Module 1 global learning outcome aligns with the following outcomes in Microbiology:

- *Module 1.1 Outcome* - Identify critical points in the history of microbiology, including how specific individuals contributed to its advancement. (CO 1)
- *Module 1.2 Outcome* - Describe critical historical events associated with the birth of microbiology. (CO 1)
- *Course Outcome 1*- Evaluate the significance of key scientific discoveries that have influenced the field of microbiology, resulting in advancements in our understanding of microorganisms and their impact on human health.

**Module 1 Global Learning Activity - Historical Timeline of Advances in Microbiology and Epidemiology in Europe.** (See Appendix A for example rubrics and Appendix B for example student instructions).

- **Basic Description:** Students will develop a timeline of historical advancements in microbiology and epidemiology within Europe and the European Union. These timelines will reflect at least ten key advances that led to the advancement of microbiology and epidemiology as scientific fields. Students will also include descriptions of each event and a summary of how that advancement relates to current practices in the field.
- **Objectives:** Students will be able to describe how medical advances in Europe and the European Union contributed to the advancement of microbiology and epidemiology. This timeline will allow students to connect historical advancements and discoveries to current research models and medical advances in microbiology and epidemiology.
- **Procedures:** This activity will take place in Module 1. During week 1 of module 1, students will begin researching the ten events they want to include on the timeline. A draft of the ten events will be submitted by the end of the first week of module 1. During week 2 of module 1, students will construct their timeline using instructor feedback from student drafts. Students will create a timeline (using a timeline creator of choice – Microsoft Office Tools, Canva, or other digital timeline makers) to submit by the end of 2<sup>nd</sup> week of module 1. Students will submit the



timeline activity in two areas: 1) in the assignment area for grading and 2) in a class collaboration area to comment on the timelines of classmates.

- **Assessment:** The instructor will grade the activity in 3 parts: the draft, the timeline, and the class discussion/collaboration. The draft will be graded as complete/incomplete, but feedback will be provided to each student on their ten historical events for the timeline. The timeline will be graded by a rubric, and the discussion/collaboration will be graded as complete/incomplete.
- **Follow-up:** This assignment will be referenced throughout the term as we continue highlighting some historical events as the class progresses through each topic and the microorganisms we are studying.

### **Global Learning Activity:**

#### **Module 3 Global Activity: Modeling and Historical Analysis of a European Epidemic/Pandemic**

**Module 3 Global Learning Outcome:** Examine the progression, characteristics, transmission, and consequences of key historical pandemics within Europe and the European Union, including microbial pathogenicity and epidemiological factors, public health responses, and the lasting influences of these pandemics on contemporary epidemiological practices.

**Global Learning Outcome 3 Alignment:** Module 3 global learning outcome aligns with the following outcomes in Microbiology:

- *Module 3.5 Outcome* - Explain how virulence factors contribute to signs and symptoms of infectious disease. (CLO 7)
- *Module 3.6 Outcome* – Distinguish between the characteristics of sporadic, endemic, epidemic, and pandemic diseases. (CLO 7)
- *Module 3.7 Outcome* - Explain the research approaches used by the pioneers of epidemiology. (CLO 1 and CLO 2)
- *Module 3.8 Outcome* - Describe the different types of disease reservoirs. (CLO 7)
- *Course Outcome 1-* Evaluate the significance of key scientific discoveries that have influenced the field of microbiology, resulting in advancements in our understanding of microorganisms and their impact on human health.
- *Course Outcome 2:* Analyze the methodologies and techniques utilized to visualize and classify bacteria, highlighting their advantages, limitations, and impact on our understanding of microbial diversity and pathogenicity.
- *Course Outcome 7:* Identify the mechanisms by which pathogens cause disease and the various strategies employed by different pathogens to evade the host immune system, establish infection, and their potential development and consequences of antibiotic resistance.



**Module 3 Global Learning Activity – Modeling and Historical Analysis of a European Epidemic/Pandemic** (See Appendix A for example rubrics and Appendix B for example student instructions).

- **Basic Description:** This global activity aims to help students better understand epidemiology and disease transmission through the historical analysis and modeling of a pandemic experienced within Europe and the European Union. Students will pick from a list of epidemics and pandemics from the European region and present a model/map of the epidemic/pandemic. They will discuss their pandemic in terms of the progression, characteristics, transmission, and consequences faced within Europe and the European Union. This analysis will include microbial pathogenicity and epidemiological factors, public health responses, and the lasting influences of these pandemics on contemporary epidemiological practices.
- **Objectives:** Students will be able to model and conduct a historical analysis of a historical epidemic/pandemic in Europe and the European Union. This analysis and model will provide insight into the infectious agent, disease transmission, virulence factors, host immune responses to infectious agent, microbial and epidemiological factors, public health responses, and lasting influences of these pandemics on society.
- **Procedures:** This activity will take place in module 3 of the course. During week 1 of module 3, students will choose an epidemic/pandemic and begin researching and collecting historical data relating to their project. A draft of work completed during the first week will be submitted at the end of week 1 for instructor feedback on progress. During week 2 of module 3, students will construct their model and historical analysis and submit it by the end of week 2. Students will submit the activity in two areas: 1) in the assignment area for grading and 2) in a class collaboration area to comment on the historical analysis of classmates.
- **Assessment:** The instructor will grade the activity in 3 parts: the draft, the final historical analysis and modeling project, and the class discussion/collaboration. The draft will be graded as complete/not complete, but feedback will be provided to each student on their progress toward the project's development. The assignment will be graded by a rubric, and the discussion/collaboration will be graded by complete/not complete.
- **Follow-up:** This assignment will be referenced throughout the term as we continue highlighting some historical events as the class progresses through each topic and the microorganisms we are studying.



### Global Learning Activity:

#### Module 5 Global Activity: Analyze and Report on Current Infectious Disease Trends in Europe and the European Union

Module 5 Global Learning Outcome: Examine the progression, characteristics, transmission, and consequences of current infectious disease incidences within Europe and the European Union, including microbial pathogenicity and epidemiological factors, public health responses, and the lasting influences of these pandemics on contemporary epidemiological practices.

Global Learning Outcome 5 Alignment: Module 5 global learning outcome aligns with the following outcomes in Microbiology:

- *Module 5.2 Outcome* - Describe general signs and symptoms associated with digestive system infections. (CLO 3 and CLO 7)
- *Module 5.5 Outcome* - Identify the most common microorganisms that can cause GI tract infections. (CLO 3, CLO 6, and CLO 7)
- *Module 5.7 Outcome* - Identify and compare the microorganisms that most commonly cause infections of the circulatory and lymphatic systems. (CLO 3, CLO 6, and CLO 7)
- *Module 5.9 Outcome* - Identify and describe general symptoms associated with various nervous system infections. (CLO 3, CLO 6, and CLO 7)
- *Course Learning Outcome 3*: Distinguish between the diverse microbial characteristics exhibited by different taxonomic groups, considering their morphology, metabolism, genetic traits, virulence factors, pathogenicity, and ecological roles within the microbial world.
- *Course Learning Outcome 6*: Describe the significance of normal microbiota in the context of nosocomial infection development including the factors that disrupt the balance of microbiota and contribute to healthcare-associated infections (HAIs) and the strategies for preventing and managing nosocomial infections.
- *Course Learning Outcome 7*: Identify the mechanisms by which pathogens cause disease and the various strategies employed by different pathogens to evade the host immune system, establish infection, and their potential development and consequences of antibiotic resistance.

**Module 5 Global Learning Activity – Analyze and Report on Current Infectious Disease Trends in Europe and the European Union** (See Appendix A for example rubrics and Appendix B for example student instructions).

- **Basic Description:** This global activity aims to help students better understand epidemiology and disease transmission models currently impacting Europe and the European Union. Students will access the [Surveillance Atlas of Infectious Disease](#) website through the [European Centre for](#)



[Diseases Control](#). They will discuss their pandemic in terms of the progression, characteristics, transmission, and consequences faced within Europe and the European Union. This analysis will include microbial pathogenicity and epidemiological factors, public health responses, and the current influences of the infectious disease on the affected populations.

- **Objectives:** Students will be able to analyze and report on current data relating to infectious disease rates across Europe and the European Union. This report and analysis will provide insight into the infectious agent, disease transmission, virulence factors, host immune responses to infectious agent, microbial and epidemiological factors, public health responses, and current influences of these infectious diseases on society.
- **Procedures:** This activity will take place in module 5 of the course. During week 1 and 2 of module 5, students will access the website [Surveillance Atlas of Infectious Disease](#) on the [European Centre for Disease Control](#) website. Students will select from the drop-down list “*Health Topic*” to select an infectious disease that is currently affecting the Europeans Region. Student will then select “*All Cases*” in the next selection box followed by “*Reported Cases*” and the most recent year for data. Student will then review the data presented (screenshots of the data can be used for data that students would like to build their report on). Students will select the European country with the two highest reported cases of the infectious disease and the two lowest cases of the reported infectious disease. Students will construct an infographic that includes information about their chosen infectious disease (including information about disease transmission, virulence factors, host immune responses to infectious agent, and microbial / epidemiological factors).

A draft of work completed during the first week will be submitted at the end of week 2 for instructor feedback on progress. During week 3 of module 3, students will revise their infographic based on instructor feedback. Students will submit the activity in two areas: 1) in the assignment area for grading and 2) in a class collaboration area to comment on fellow classmates’ infographics relating to Current trends in Infectious Diseases in Europe and the European Union.

- **Assessment:** The instructor will grade the activity in 3 parts: the draft (complete / not complete), the final current infectious disease trends infographic, and the class discussion/collaboration. The draft will be graded as complete/not complete, but feedback will be provided to each student on their progress toward the project’s development. The assignment will be graded by a rubric, and the discussion/collaboration will be graded by complete/not complete.
- **Follow-up:** This assignment will be referenced throughout the term as we continue highlighting some historical events as the class progresses through each topic and the microorganisms we are studying.



## Resources and References Used in the Creation of the Modules (e.g., books, articles, etc.)

Demont, P. (2013). The causes of the Athenian plague and Thucydides. *Thucydides between history and literature*, 17, 73.

European Centre for Disease Control. (2024, January 14). *Surveillance atlas of infectious disease*. <http://atlas.ecdc.europa.eu/public/index.aspx>

LePan, N. (2020). Visualizing the history of pandemics. *Visual Capitalist*, 14, 00060-20.

Opal, S. M. (2010). A brief history of microbiology and immunology. *Vaccines: A Biography*, 31-56.

Piret, J., & Boivin, G. (2021). Pandemics throughout history. *Frontiers in microbiology*, 11, 631736.

Qiu, W., Rutherford, S., Mao, A., & Chu, C. (2017). The pandemic and its impacts. *Health, culture and society*, 9, 1-11.

Sampath, S., Khedr, A., Qamar, S., Tekin, A., Singh, R., Green, R., & Kashyap, R. (2021). Pandemics throughout the history. *Cureus*, 13(9).

Schwartz, R. A., & Kapila, R. (2021). Pandemics throughout the centuries. *Clinics in Dermatology*, 39(1), 5-8.

Thomas, A. J. (2010). *The Lambeth cholera outbreak of 1848-1849: the setting, causes, course and aftermath of an epidemic in London*. McFarland.

## Appendix A

### Rubrics

#### Rubric For Module 1 Global Activity:

Historical Timeline of Advances in Microbiology and Epidemiology in Europe.





Criteria	Needs Improvement	Meets Expectations	Exceeds expectations
<b>Knowledge and Understanding</b>  20 possible points	<b>0 - 13 points</b> Demonstrates limited knowledge and understanding of the historical advancements in microbiology and epidemiology within Europe.	<b>14 - 18 points</b> Demonstrates some knowledge and understanding of the historical advancements in microbiology and epidemiology within Europe.	<b>19 - 20 points</b> Demonstrates substantial knowledge and understanding of the historical advancements in microbiology and epidemiology within Europe.
<b>Research and Analysis</b>  20 possible points	<b>0 - 13 points</b> Limited effort in research and analysis of historical events related to microbiology and epidemiology within Europe.	<b>14 - 18 points</b> Evidence of some research and analysis of historical events related to microbiology and epidemiology within Europe.	<b>19 - 20 points</b> Thorough research and analysis of historical events related to microbiology and epidemiology within Europe.
<b>Presentation and Creativity</b>  10 possible points	<b>0 - 6 points</b> Limited effort in presentation and creativity of the timeline project.	<b>7 - 8 points</b> Some effort in presentation and creativity of the timeline project.	<b>9 - 10 points</b> Strong effort in presentation and creativity of the timeline project.


 Total Possible Points: 50



## Rubric For Module 3 Global Activity:

### Modeling and Historical Analysis of a European Epidemic/Pandemic

Criteria	Exceeds Expectations	Meets Expectations	Needs Improvement
<p>Depth of Analysis</p> <p>20 possible points</p>	<p>19 - 20 points</p> <p>Provides a thorough and insightful analysis of the chosen epidemic/pandemic, including all relevant aspects and detailed explanations.</p>	<p>14 - 18 points</p> <p>Provides a solid analysis of the chosen epidemic/pandemic, addressing most relevant aspects with clear explanations.</p>	<p>0 - 13 points</p> <p>Provides a basic analysis of the chosen epidemic/pandemic, covering some relevant aspects with limited explanations.</p>
<a href="#">Align with goals</a>			
<p>Presentation Quality</p> <p>10 possible points</p>	<p>9 - 10 points</p> <p>Delivers a visually compelling and engaging presentation using appropriate multimedia elements, with clear organization and impeccable grammar and spelling.</p>	<p>7 - 8 points</p> <p>Delivers a visually appealing presentation using some multimedia elements, with fairly organized structure and acceptable grammar and spelling.</p>	<p>0 - 6 points</p> <p>Delivers a minimally acceptable presentation with limited multimedia elements, and evident issues with organization, grammar, or spelling.</p>
<a href="#">Align with goals</a>			
<p>Research and Evidence</p> <p>20 possible points</p>	<p>19 - 20 points</p> <p>Demonstrates extensive research with a wide range of high-quality sources, providing compelling evidence to support claims and arguments.</p>	<p>14 - 18 points</p> <p>Demonstrates sufficient research with credible sources, providing evidence to support claims and arguments.</p>	<p>0 - 13 points</p> <p>Demonstrates limited research with few or questionable sources, providing some evidence to support claims and arguments.</p>
<a href="#">Align with goals</a>			

 Total Possible Points: 50



## Rubric For Module 5 Global Activity:

### Reporting and Analyzing Current Infectious Disease Trends in Europe and the European Union

Criteria	Exceeds Expectations	Meets Expectations	Needs Improvement
<b>Depth of Analysis</b>  20 possible points	<b>19 - 20 points</b>  Provides a thorough and insightful analysis of the chosen epidemic/pandemic, including all relevant aspects and detailed explanations.	<b>14 - 18 points</b>  Provides a solid analysis of the chosen epidemic/pandemic, addressing most relevant aspects with clear explanations.	<b>0 - 13 points</b>  Provides a basic analysis of the chosen epidemic/pandemic, covering some relevant aspects with limited explanations.
<a href="#">Align with goals</a>			
<b>Presentation Quality</b>  10 possible points	<b>9 - 10 points</b>  Delivers a visually compelling and engaging presentation using appropriate multimedia elements, with clear organization and impeccable grammar and spelling.	<b>7 - 8 points</b>  Delivers a visually appealing presentation using some multimedia elements, with fairly organized structure and acceptable grammar and spelling.	<b>0 - 6 points</b>  Delivers a minimally acceptable presentation with limited multimedia elements, and evident issues with organization, grammar, or spelling.
<a href="#">Align with goals</a>			
<b>Research and Evidence</b>  20 possible points	<b>19 - 20 points</b>  Demonstrates extensive research with a wide range of high-quality sources, providing compelling evidence to support claims and arguments.	<b>14 - 18 points</b>  Demonstrates sufficient research with credible sources, providing evidence to support claims and arguments.	<b>0 - 13 points</b>  Demonstrates limited research with few or questionable sources, providing some evidence to support claims and arguments.
<a href="#">Align with goals</a>			

 Total Possible Points: 50



## Appendix B

### Sample Student Instructions

#### Sample Instructions for Module 1: Global Connections Activity

**Purpose:** Throughout module 1, we have been discussing the history surrounding advances in microbiology. This assignment will allow you to demonstrate what you have learned about the origins of Microbiology. You will develop a timeline of historical advancements in microbiology and epidemiology within **Europe and the European Union**. These timelines will reflect at least **ten** key advances that led to the advancement of microbiology and epidemiology as scientific fields. Students will also include descriptions of each event and a summary of how that advancement relates to current practices in the field.

You will be able to discuss critical historical advances in microbiology and epidemiology that emerged throughout Europe. This activity aligns with the following module and course learning outcomes...

- **Module 1.1 Outcome** - Identify critical points in the history of microbiology, including how specific individuals contributed to its advancement. (CO 1)
- **Module 1.2 Outcome** - Describe critical historical events associated with the birth of microbiology. (CO 1)

**Task:** Construct a timeline of the historical advancements of microbiology and epidemiology within Europe and the European Union and how these advancements have shaped the global field of microbiology and epidemiology. Each of the 10 items on the timeline must be related to historical advances in microbiology and epidemiology within Europe and the European Union.

**Criteria for Success:** Construct a timeline using a presentation tool of your choice (PowerPoint, Canva, Word, or other infographic or digital tool of your choice). The timeline must include ten (10) historical events that helped advance the field of microbiology and epidemiology between the years 1600 C.E. and 2000 C.E. Each historical advance must include the event, descriptions of each event, and a summary (3-5 sentences) of how that advancement relates to current practices in the field. A rubric is provided to help guide you in your project. The project is worth a total of 50 points.

Please upload your completed timeline to this assignment area. Please reach out for assistance with this activity if you are having trouble with the content or the technology you are using or planning on using. You may be as creative as you like with this activity and can choose the format you prefer to create your timeline. Please reach out if you would like me to review a draft of your timeline before the due date. I am happy to provide feedback on your progress.

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## Sample Instructions for Module 3: Global Connections Activity

**Purpose:** Throughout module 3, we have been discussing epidemics/pandemics and disease transmission and control. This global activity aims to help students better understand epidemiology and disease transmission through the historical analysis and investigation of a pandemic experienced within Europe and the European Union. Students will pick from a list of epidemics and pandemics from the European region and present a model/map of the epidemic/pandemic. You will discuss your pandemic in terms of the progression, characteristics, transmission, and consequences faced within Europe and the European Union. This analysis will include microbial pathogenicity and epidemiological factors, public health responses, and the lasting influences of these pandemics on contemporary epidemiological practices.

You will analyze an epidemic/pandemic and conduct a historical analysis of a historical epidemic/pandemic in **Europe and the European Union**. This analysis and description will provide insight into the infectious agent, disease transmission, virulence factors, host immune responses to infectious agents, microbial and epidemiological factors, public health responses, and lasting influences of these pandemics on society.

This activity aligns with the following module and course learning outcomes...

- **Module 3.5 Outcome** - Explain how virulence factors contribute to signs and symptoms of infectious disease. (CLO7)
- **Module 3.6 Outcome** – Distinguish between the characteristics of sporadic, endemic, epidemic, and pandemic diseases. (CLO 7)
- **Module 3.7 Outcome** - Explain the research approaches used by the pioneers of epidemiology. (CLO 1 and CLO 2)
- **Module 3.8 Outcome** - Describe the different types of disease reservoirs. (CLO 7)

**Task:** Complete a historical analysis of a historical epidemic/pandemic in **Europe and the European Union**. This analysis and description will provide insight into the infectious agent, disease transmission, virulence factors, host immune responses to infectious agents, microbial and epidemiological factors, public health responses, and lasting influences of these pandemics on society. Include information on how communities, health agencies, and/or governments responded to your chosen pandemic/epidemic during the event.

**Choose one of the following for your historical analysis:**

- Antonine Plague (165 - 180 CE)
- Plague of Cyprian (249-262 CE)
- 412 BC epidemic (412 CE)
- Justinian Plague (541 CE)
- Black Death (1346 - 1353 CE)



- Naples Plague (1656-1658 CE)
- Italian Plague (1629-1631 CE)
- The Seven Cholera Pandemics - from the Russian perspective (1817 CE)
- Russia-Typhus Epidemic (1918 - 1922 CE)
- Plague of 664 - Part of the First Plague Epidemic Group (664 - 689 CE)
- Sweating Sickness (1485-1551 CE)
- 1563 London Plague - Part of the Second Plague Epidemic Group (1563-1564 CE)
- Epidemic or Pandemic of your choice from the European Region.

**Criteria for Success:** Construct a historical analysis and summary of a European pandemic/epidemic using a presentation tool of your choice (PowerPoint, Canva, Word, or other infographic or digital tool of your choice). The analysis must include the suspected infectious agent (may be known, but it could be unknown if the disease occurred before modern identification methods), disease transmission, virulence factors, host immune responses to infectious agents, microbial and epidemiological factors, public health responses, and lasting influences of these pandemics on society. Include information on how communities, health agencies, and/or governments responded to your chosen pandemic/epidemic during the event. A rubric is provided to help guide you in your project. The project is worth a total of 50 points.

Please upload your completed historical analysis to this assignment area. Please reach out for assistance with this activity if you are having trouble with the content or the technology you are using or planning on using. You may be as creative as you like with this activity and can choose the format you prefer to create your presentation. Please reach out if you would like me to review a draft of your historical analysis before the due date. I am happy to provide feedback on your progress.

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### Sample Instructions for Module 5: Global Connections Activity

**Purpose:** Throughout module 4 and 5, we have been infectious agents that invade each of our body systems. This global activity aims to help students better understand epidemiology and disease transmission of a current infectious disease within Europe and the European Union. Please access the website [Surveillance Atlas of Infectious Disease](#) on the [European Centers for Disease Control](#) website. You will select from the drop-down list "*Health Topic*" to select an infectious disease that is currently affecting the European Region. Next step is to select "*All Cases*" in the next selection box followed by "*Reported Cases*" and the most recent year for data. Please review the data presented (screenshots of the data can be used for data that students would like to build their report on). In order to make comparisons of current trends, you will select the European counties with the two highest reported cases of the infectious disease and the two lowest cases of the reported infectious disease. You will then construct an infographic that includes information about their chosen infectious disease (including information about disease transmission, virulence factors, host immune responses to infectious agent,



and microbial / epidemiological factors) alongside data you uncover on the infectious disease from the Surveillance Atlas.

A draft of work completed during the first week will be submitted at the end of week 2 for instructor feedback on progress. During week 3 of module 3, students will revise their infographic based on instructor feedback. Students will submit the activity in two areas: 1) in the assignment area for grading and 2) in a class collaboration area to comment on fellow classmates' infographics relating to Current trends in Infectious Diseases in Europe and the European Union.

This activity aligns with the following module and course learning outcomes...

**Module 5 Global Learning Outcome:** Examine the progression, characteristics, transmission, and consequences of current infectious disease incidences within Europe and the European Union, including microbial pathogenicity and epidemiological factors, public health responses, and the lasting influences of these pandemics on contemporary epidemiological practices.

- *Module 5.2 Outcome* - Describe general signs and symptoms associated with digestive system infections. (CLO 3 and CLO 7)
- *Module 5.5 Outcome* - Identify the most common microorganisms that can cause GI tract infections. (CLO 3, CLO 6, and CLO 7)
- *Module 5.7 Outcome* - Identify and compare the microorganisms that most commonly cause infections of the circulatory and lymphatic systems. (CLO 3, CLO 6, and CLO 7)
- *Module 5.9 Outcome* - Identify and describe general symptoms associated with various nervous system infections. (CLO 3, CLO 6, and CLO 7)

**Task: Complete an infographic addressing a current infectious disease affecting Europe and the European Union. This analysis and description will provide insight into the infectious agent, disease transmission, virulence factors, host immune responses to infectious agents, microbial and epidemiological factors, public health responses, and the current affect this infectious disease is having on society.**

**Criteria for Success:** Construct an infographic that details a current infectious disease affecting Europe and the European Union using an infographic presentation tool of your choice (PowerPoint, Canva, Word, or other infographic creation tool). The analysis must include the infectious agent, disease transmission, virulence factors, host immune responses to infectious agents, and microbial and epidemiological factors. A rubric is provided to help guide you in your project. The project is worth a total of 50 points.

Please upload your completed infographic to this assignment area. Please reach out for assistance with this activity if you are having trouble with the content or the technology you are using or planning on



using. You may be as creative as you like with this activity and can choose the format you prefer to create your infographic. Please reach out if you would like me to review a draft of your historical analysis before the due date. I am happy to provide feedback on your progress.