# **Chapter 21: Viruses**

#### **Learning Objectives:**

* Biology I – III 3: Describe the structure, function and reproduction of cells, including viruses and microorganisms

1. **In-Class Group Project**:

Prepare a 5 slide minimum presentation on one of the following viruses.

1. HIV
2. HPV
3. Ebola
4. Epstein-Barr virus
5. Influenza
6. Norovirus
7. Measles
8. Mumps
9. Rubella

\*Include: A) a brief summary of the mechanism of viral infection; B) signs and symptoms of infection; C) potential treatments and/or vaccines D) any other interesting information. Here is a good starting resource: <https://www.merckmanuals.com/professional/infectious-diseases/viruses/overview-of-viruses>

\*Students may also choose to create a 3D model of the virus to aid in their explanation of how the virus infects the host cell. This may be offered for extra credit.

2. **In-class Discussion:**

Assign students to the for and against vaccinations debate. Ask them to prepare three points before class. Divide the class into the for and against groups. The professor will act as a facilitator for the class discussion. The instructor will need to be prepared with facts and stats to counter any false or misleading information. The goal at the end of the exercise will be to ensure students understand how vaccines work. Additionally students should leave with knowledge about how the misinformation surrounding autism and vaccinations arose and why this link has never been reliably demonstrated.

3. **At-home Paper:**

Students will research and write a 3-5 page paper on one of the following topics:

1. How bacterial and viral infections are treated differently and why
2. What antibiotics treat and how they function
3. Antibiotic resistance and how it arises
4. Transfer of specific viruses from one species host to another

\*Include: A) a brief summary of the topic; B) signs and symptoms of infection for your example virus and/or bacterial infection; C) any other interesting information.