**Virology – Biology 4310 Spring 2021 Prof. V. Racaniello**

**Study Questions for Lecture 19 – Vaccines**

1. How do vaccines work? Do they prevent disease, infection, or both?

2. What is “herd immunity”? How is it calculated?

3. What is the difference between a passive vaccine and an active vaccine? Describe a natural method of passive immunization. Which passive vaccines are being tested for SARS-CoV-2?

4. Compare attenuated and inactivated vaccines. Provide an example of each and how they function.

5. Why do some vaccines need adjuvants and others do not?

6. How do the HPV and HBV vaccines differ from a subunit vaccine such as Shingrix?

7. What are advantages and disadvantages of the oral poliovirus vaccine (OPV)? What public health problems are likely to occur if OPV vaccination is abruptly ended?