**Topic Area:** Strengths and weaknesses of using microbes to test ecological and evolutionary theory

**Question**

1. What is a “microbe”? Provide your working definition. Justify your definition with reference to definitions used by other researchers in the field of microbial ecology? (~1 page, double spaced)

2. How have theoretical and empirical studies of microbes changed our understanding of ecological processes? Give a general overview of the major contributions, and then provide a more detailed description of 2-3 specific examples. (~3 pages)

3. How have theoretical and empirical studies of microbes changed our understanding of evolutionary processes? Give a general overview of the major contributions, and then provide a more detailed description of 2-3 specific examples. (~3 pages)

4. How have theories, models, and empirical results from ecology and evolution outside of microbial ecology contributed to notable advances in basic and applied microbial ecology. Identify and justify 2-3 specific examples (~2 pages)

5. Synthesizing what you’ve learned from your reading and thinking on this subject, what are the key strengths and weaknesses of using microbes to test ecological and evolutionary theory? Be specific! Draw from the literature as much as possible. (~3 pages)