**BIOLOGY 140: Introduction to Human Disease**

**Exam 1: Study Guide**

**Date: February 6, 2019**

**This study guide is designed to prepare you for Wednesday’s exam. You are responsible for all material in my PowerPoint presentations, material discussed in lecture (i.e. stuff that I mentioned that is NOT on the power points), in-class assignments, and two reading assignments. Use this study guide to help focus your studying not as substitute for last minute cramming of material. Remember, this is a GUIDE not a comprehensive list of all the material covered in lecture. Also, make certain to use your textbook to further your understanding of material in the study and PowerPoint lectures.**

**Chapter 1 (Lecture 1 on Canvas)**

1. What is meant by the term homeostasis and how does it pertain to human health and disease?
2. What is the leading cause of death in the United States? Worldwide?
3. What is meant by the term pathology? What does a pathologist do?
4. What is a pathogen and was is meant by the term pathogenic?
5. What is meant by the term etiology? Idiopathic? Nosocomial?
6. Be able to list some factors that predispose someone to disease?
7. Be able to distinguish the difference between an acute versus chronic disease? What are some examples of each type of disease?
8. What is the difference between palliative versus preventative care?
9. Why are the major diseases in the United States mostly lifestyle diseases such as heart disease, diabetes, and cancer where in the developed world there are more cases of infectious disease that lead to death?

**Chapter 2 (Lecture 2 on Canvas)**

1. Be able to name at 6 causes of human disease?
2. What is meant by a congenital hereditary disease?
3. Give some examples of a genetic disease? What causes Down Syndrome? Patau Syndrome?
4. Be able to describe the difference between infection and inflammation?
5. What is a hyperplasia? Neoplasm?
6. What is the study of cancer called?
7. Be able to describe the difference between a benign versus a malignant tumor?
8. What happens to a person when they have a nutritional imbalance? What is cachexia?
9. Why is impaired immunity something that can lead to disease? What are the different types of general conditions that result from impaired immunity?
10. What is one of the most common disease of aging? What leads to people who are older having a higher incidence of disease?

**Chapter 3 (Lecture 3 on Canvas)**

1. How many people in the United States are diagnosed with cancer each year? How many die from cancer?
2. From the cellular perspective what is cancer?
3. When are tumor that result from cancer considered deadly?
4. What is the difference between a hematoma versus a tumor?
5. How are tumors classified?
6. What is the difference between a benign versus malignant tumor in terms what could happen to the cells from a malignant tumor? Provide some specific examples from table 18.1 in the PowerPoint lecture?
7. What is the difference between hyperplasia cells versus dysplasia cells? What is the consequence if cells from a malignant and dysplasic tumor become metastatic?
8. What are the two types of mutations that can occur in the cells that can lead to a normal cell becoming a cancer cell? Which ones are considered the “brakes” of the cell versus the “gas pedal” of the cell?
9. What are factors that can lead to cancer? Be able to describe examples of each.
10. What is the leading factor that leads to lung cancer?

**Chapter 4 (Lecture 4, 5, 6 on Canvas)**

1. What are the two types of immunity (see Figure 4-1)? Provide some different examples of each type.
2. Be able to define the term inflammation. What are some requirement for inflammation?
3. Describe some conditions of the inflammatory process?
4. What are some examples of exudates that result from inflammation?
5. Briefly describe the tissue repair process?
6. What are some factors that can delay the wound healing process?
7. What is meant by the term infection? What are some examples of the infection process?
8. Be able to distinguish between a bacterial versus a viral versus a fungal versus a parasitic infection. What are the major differences between the organisms that cause these different types of infections?
9. What are some examples of test for infections used by medical professionals?
10. What are some organs of the immune system?
11. What is meant by the term hematopoietic stem cell? Name the major cell types that can be generated from one of these stem cells?
12. What are some examples of diseases caused by a hypersensitive immune response? Be able to briefly describe the diseases.
13. What are some examples of diseases causes by an autoimmune response? Be able to briefly describe the diseases.
14. What is an example of a disease caused by an isoimmune response? Describe the disease.
15. What is the cause of AIDS? What type of infectious agent causes this disease?
16. What type of cell is infected by HIV? Why does infection of this cell lead to a total collapse of the immune system?
17. What are the modes of transmission for possible infection by HIV?
18. What type of therapy has led to the decrease in deaths that result from HIV infection?
19. What parts of the world have the highest rate of infection and death from HIV? Why?
20. What is an antibody and does loss of the ability to secrete antibodies to fight HIV infection lead to the inability to mount an effective immune response?
21. What is AIDS and why does it eventually lead to death?
22. What are some interventions that can be used to decrease both HIV infection rates and death by AIDS?