



South Central College

BIOL 110 Biology of Disease

Course Outcome Summary

Course Information

Description	This course is a survey of human disease including physiological and infectious diseases. Possible topics include infectious diseases, cancer, heart disease, disorders of the immune system, diabetes, etc. Prevention of disease through control of risk factors and early detection will be covered. Diagnosis and treatment will also be addressed. Use of case studies and simulations will engage students in a lab-like experience. (Prerequisites: Must have a score of 77.5 or higher on the Reading portion of the Accuplacer test or completion of READ0080 and READ0090 with a grade of C or higher) (MNTC 3: Natural Sciences)
Total Credits	3
Total Hours	48

Types of Instruction

Instruction Type	Credits/Hours
Lecture	

Pre/Corequisites

Must have a score of 77.5 or higher on the Reading portion of the Accuplacer test or completion of READ 0090 with a grade of C or higher.

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Explain the cellular biology involved in disease processes

Learning Objectives

- Distinguish between types of human cells
- Identify various types of microbes which can cause disease
- Describe the cell cycle and how human cells replicate
- Explain mitosis, meiosis and DNA segregation

2. Explain the role of the immune system in preventing and occasionally causing disease

Learning Objectives

Define the components of the human immune system
Define autoimmune disease
Identify common autoimmune disease
Discuss current treatment options for autoimmune diseases

3. Identify and describe common non-infectious diseases that affect humans such as cancer, diabetes and cardiac disease

Learning Objectives

Explain the cause of common diseases that affect humans.
Describe the symptoms of common diseases that affect humans
Identify common forms of prevention for non-infectious diseases

4. Identify and describe common infectious diseases that affect humans such as HIV/AIDS, tuberculosis and malaria.

Learning Objectives

Identify the various types of microbes which can cause infectious diseases
Describe the symptoms of common infectious diseases
Describe the treatment of common infectious diseases include antimicrobial use
Describe the prevention of common infectious diseases including vaccination.
Explain emerging diseases and provide examples of how they have affected society.

5. Discuss genetic diseases

Learning Objectives

Identify the most common genetic diseases in the US population
Explain how genetic diseases are passed from one generation to the next
Differentiate between dominant and recessive genetic diseases
Explain X-linked interhited diseases
Discuss genetic testing for genetic diseases including the pros and cons of such testing

6. Discuss diabetes

Learning Objectives

Distinguish between Type I and Type II diabetes
Identify the causes of Type I diabetes
Identify the causes of Type II diabetes
Discuss the current treatment methods for Type I diabetes
Discuss the current treatment methods for Type II diabetes

7. Discuss cancer

Learning Objectives

Describe malignancies on a cellular level
Identify potential causes of cancer
Recognize the link between viruses and cancer
Discuss current methods of detection of cancer
Discuss current treatment options for cancer

8. Discuss heart disease

Learning Objectives

Identify signs and symptoms of heart disease
Identify risk factors for heart disease
Identify preventative measures for heart disease
Identify various forms of heart disease including angina, heart failure and arrhythmias

9. Identify AIDS as a major emerging epidemic of our time

Learning Objectives

Recognize the HIV is the causative agent of AIDS
Identify examples of secondary infections associated with AIDS
Explain how HIV damages the immune system to cause AIDS

Recognize the global impact of HIV/AIDS
Discuss current treatment options for HIV infection and AIDS

10. Explain the field of epidemiology

Learning Objectives

Define epidemiology
Explain how epidemiology affects the spread of disease
Describe the role of epidemiology in preventing disease

11. Investigate and present information for a specific disease of the students choice

Learning Objectives

Use and evaluate scientific literature
Identify signs and symptoms of the disease
Identify the cause(s) of the disease
Identify treatments for the disease
Identify preventative measures for the disease
Identify categories of people most at risk of acquiring the disease

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

This material can be made available in alternative formats by contacting the Academic Support Center at 507-389-7222.