

Minnesota State College Southeast

BIOL 2540: Pathophysiology

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:

This course requires the following prerequisite

BIOL 2516 - Anatomy & Physiology II

Corequisites: None

MnTC Goals: Goal 02 - Critical Thinking, Goal 03 - Natural Science

This course expands upon knowledge gained in Anatomy and Physiology I and II to explore the changes that result from disease processes in the body. The nature, cause, diagnosis, and treatment of common diseases will be emphasized. Topics will include the immune response, cancer, fluid imbalances, diseases of the individual body systems, and systemic pathophysiology. MnTC Goals 2 & 3 (Prerequisite: BIOL 2516) (3 Credits: 3 lecture/0 lab)

B. COURSE EFFECTIVE DATES: 05/07/2020 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Immune response, infection, and inflammation
2. Pathophysiology of the body systems
3. Cellular biology and genetics in relation to disease
4. Pathophysiology through the life cycle
5. Epidemiology

D. LEARNING OUTCOMES (General)

1. Explain how disease disrupts homeostasis, including anatomical and physiological function
2. Explain common mechanisms of disease progression
3. Describe the role of inflammation in homeostatic imbalances
4. Describe the immune system response to a variety of diseases and disorders
5. Apply pathophysiology vocabulary appropriately
6. Demonstrate an understanding of the scientific method for epidemiological and other disease-related research
7. Identify and describe the major diseases associated with each of the body systems
8. Recognize and evaluate potential ethical, social, and legal issues related to disease and treatment of disease
9. Describe the cellular and molecular mechanisms employed by the body to prevent disease
10. Describe the genetic basis of disease
11. Differentiate between normal and abnormal physiological findings and manifestations
12. Explain age-related differences in physiological and pathophysiological processes and their clinical manifestations
13. Evaluate case studies from a variety of body systems to determine the expected physiologic responses and the appropriate clinical interventions

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 02 - Critical Thinking

1. Gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.
2. Analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.
3. Recognize and articulate the value assumptions which underlie and affect decisions, interpretations, analyses, and evaluations made by ourselves and others.

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
3. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted