



MASTER COURSE OUTLINE

A. BIOL 2050 Pathophysiology

B. COURSE DESCRIPTION:

This course provides an in-depth study into the chemical, biological and physiological processes occurring when human homeostasis is disrupted. This course will use systemic and non-systemic approaches to study alterations in health. Assessments highlighting the cause, diagnosis and treatment of common disease conditions will be utilized. Prerequisite: BIOL 2022

(3 Cr – 3 lect, 0 lab)

C. **Core Theme: Critical Thinking

D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):

- ☒ ILO 1: critical thinking (*Core Theme Goal 2*)
- ☐ ILO 2: awareness of the larger global community (*Core Theme Goal 7 or 8*)
- ☐ ILO 3: ethical, engaged citizenship (*Core Theme Goal 9 or Goal 10*)
- ☐ ILO 4: communication and collaboration (*Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration*)

E. MAJOR CONTENT AREAS:

Topics will include but may not be limited to:

- Cellular Function: Cancer, genetic disorders
- Immunity, immune-deficiencies and disorders of immunity
- Hematopoietic Function
- Cardiovascular Function
- Respiratory Function
- Fluid, Electrolyte, and Acid-Base Homeostasis
- Urinary Function
- Reproductive Function
- Gastrointestinal Function
- Endocrine Function
- Neural Function
- Musculoskeletal Function
- Integumentary Function
- Sensory Function

F. GOALS/GENERAL COMPETENCIES AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u> Students will be able to:	<u>OUTCOMES</u> The student will successfully:
<u>**Critical Thinking</u>	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.	1. explain the contribution of identified risk factors to the diseases studied.
<u>**Critical Thinking</u>	imagine and seek out a variety of possible goals, assumption, interpretations or perspectives which can give alternative meanings or solutions to a given situation or problem.	1. propose and justify alternative solutions based on varying disease scenarios.
<u>CS</u>	apply pathophysiology vocabulary appropriately.	1. define and explain the application of vocabulary terms related to pathophysiology.
<u>CS</u>	understand how disease processes interfere with homeostasis.	1. explain how diseases interfere with homeostasis, as well as normal anatomical and physiological functions.
<u>CS</u>	understand the common mechanisms of disease progression.	1. explain the common mechanisms of disease progression in the human body. 2. provide an analysis of how different diseases may affect the human body in similar kinds of ways.
<u>CS</u>	understand how the impact of diseases on growth and development.	1. correlate the diseases associated with altered growth and development with their impact on the human body.
<u>CS</u>	recognize and evaluate potential ethical, legal, and social issues related to treatment of pathological conditions.	1. demonstrate an understanding of moral, ethical, legal and social issues related to the treatment of pathological conditions. 2. make and justify conclusions predicting long-term outcomes given various disease scenarios.
<u>CS</u>	identify the major diseases associated with the human body's organ systems and the pathophysiology of each disease.	1. explain the disease process of each of the major diseases. 2. correlate each disease with the human body's organ system(s).

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION: Course Code C/Class Maximum 48; Letter Grade

Revision date: 09/28/10; 03/22/22

AASC Approval date: 05/15/08; 03/22/22

*Riverland Community College Disciplines	MnTC Goal Number
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

**Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking (CT)	2
Human Diversity (HD)	7
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

*These five MnTC Goals have been identified as Riverland Community College Disciplines.

** These five MnTC Goals have been identified as Riverland Community College Core Themes.

NOTE: The Minnesota Transfer Curriculum “10 Goal Areas of Emphasis” are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.