



# ILLINOIS VALLEY COMMUNITY COLLEGE

## COURSE OUTLINE

**DIVISION: Natural Sciences & Business**

**COURSE: BIO 1200 Human Body Structure and Function**

Date: Spring 2023

Credit Hours: 3

*Complete all that apply or mark "None" where appropriate:*

Prerequisite(s): None

Enrollment by assessment or other measure?  Yes  No

If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor:  Yes  No

Delivery Method:	<input checked="" type="checkbox"/> <b>Lecture</b>	<b>3 Contact Hours</b> (1 contact = 1 credit hour)
	<input type="checkbox"/> <b>Seminar</b>	<b>0 Contact Hours</b> (1 contact = 1 credit hour)
	<input type="checkbox"/> <b>Lab</b>	<b>0 Contact Hours</b> (2-3 contact = 1 credit hour)
	<input type="checkbox"/> <b>Clinical</b>	<b>0 Contact Hours</b> (3 contact = 1 credit hour)

Offered:  **Fall**    **Spring**    **Summer**

**CATALOG DESCRIPTION and IAI NUMBER (if applicable):**

This course will emphasize the anatomy (structure) and physiology (function) of the human body. Lectures, demonstrations, discussions and laboratory activities focus on how the body is constructed and how it functions.

## **ACCREDITATION STATEMENTS AND COURSE NOTES:**

None

## **COURSE TOPICS AND CONTENT REQUIREMENTS:**

1. Anatomical orientation; organizational plan of the human body; introduction to organ systems
2. Introductory chemistry as it relates to human physiology
3. Cytology
4. Histology
5. Integumentary System
6. Skeletal System
7. Muscular System
8. Nervous System
9. Endocrine System
10. Circulatory
11. Lymphatic/Immune
12. Respiratory
13. Digestive
14. Urinary
15. Reproductive

## **INSTRUCTIONAL METHODS:**

Lectures

Class discussions

Individual and group activities

Written evaluations in lecture

Demonstrations using computer animations/simulations, videos, laboratory models, preserved specimens, and other laboratory equipment.

## **EVALUATION OF STUDENT ACHIEVEMENT:**

Textbook reading assignments

Lecture exams

Weekly quizzes

Empty outlines

Take-home quizzes

Group work

Participation in discussions

Assignments as appropriate

Grades will be assigned primarily on the basis of total points earned during lecture tests, quizzes, presentations (when assigned), empty outlines and assignments.

The following grading scale will be used as a guide in determining the final letter grade for the course:

90 - 100% = A

80 - 89% = B

70 - 79% = C

60 - 69% = D

Below 60% F

Other criteria such as class participation and attendance may also be considered in assigning a final letter grade.

## **INSTRUCTIONAL MATERIALS:**

### **Textbooks**

#### Required

Thibodeau/Patton: Structure and Function of the Body, Mosby Elsevier Publishers, Inc., St. Louis, Missouri.

#### Recommended

Essentials of Anatomy and Physiology: Van Putte, McGraw Hill Publishers, New York, New York.

A.D.A.M. Interactive Physiology CD-ROM: A.D.A.M. Software, Inc., Atlanta, Georgia, and The Benjamin/Cummings Publishing Company, Menlo Park, California.

Cardiovascular System—Authors: Elaine Marieb and Marvin J. Branstrom  
Muscular System—Author: Marvin J. Branstrom

Respiratory System—Author: Andrea K. Salmi

Urinary System—Author: Marvin J. Branstrom

Thibodeau/Patton: Structure and Function of the Body Study Guide, 2008, Mosby Elsevier Publishers, Inc., St. Louis, Missouri.

Sickles Corbett, Nancy A.: Hole's Human Anatomy and Physiology Student Study Guide, Wm. C. Brown Publishers, Dubuque, Iowa.

### **Resources**

Visual aids (transparencies, charts, models, video tapes, CD-ROM, display materials, preserved specimens)

Smart classroom equipment (Personal computer with Internet connection, PC projector, ELMO)

Computer overhead projector

Web page materials and selected other Internet sites

## **LEARNING OUTCOMES AND GOALS:**

### **Institutional Learning Outcomes**

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 4) Responsibility – to recognize how personal choices affect self and society.

### **Course Outcomes and Competencies**

Upon completion of the course, the student will be able to:

1. Understand the relationships that exist between form (anatomy) and function (physiology) with reference to the study of the human body.
  - 1.1 Students will be able to identify parts of the cell and explain their functions.
  - 1.2 Students will be able to identify types of tissues and describe their location and functions.

- 1.3 Students will be able to identify organs of the integumentary system and describe their functions.
- 1.4 Students will be able to identify organs of the skeletal system and describe their functions.
- 1.5 Students will be able to identify organs of the muscular system and describe their functions.
- 1.6 Students will be able to identify organs of the nervous system and describe their functions.
- 1.7 Students will be able to identify organs of the endocrine system and describe their functions.
- 1.8 Students will be able to identify organs of the circulatory system and describe their functions.
- 1.9 Students will be able to identify organs of the lymphatic system and describe their functions.
- 1.10 Students will be able to identify organs of the respiratory system and describe their functions.
- 1.11 Students will be able to identify organs of the digestive system and describe their functions.
- 1.12 Students will be able to identify organs of the urinary system and describe their functions.
- 1.13 Students will be able to identify organs of the reproductive system and describe their functions.
2. Relate the organ systems of the body to their specific homeostatic functions.
  - 2.1 Students will develop a basic understanding of the chemical properties of molecules and how they are of functional importance to the human body.
  - 2.2 Students will be able to describe the importance of DNA and RNA molecules.
  - 2.3 Students will be able to identify and describe the phases of mitosis.
  - 2.4 Students will be able to explain how bones are formed and how they grow.
  - 2.5 Students will be able to describe the needs of skeletal muscle and what is required for contraction.
  - 2.6 Students will be able to describe what happens at the junction between two neurons (a synapse).
  - 2.7 Students will be able to describe the differences in mechanism of actions of steroid and non-steroid hormones on their target cells.
  - 2.8 Students will be able to describe the control of hormone production through negative feedback mechanisms.
  - 2.9 Students will be able to explain how various hormones control metabolic processes.
  - 2.10 Students will be able to explain the effect of selected factors on cardiac output.
  - 2.11 Students will be able to interpret the meaning of an ECG tracing of a healthy individual.
  - 2.12 Students will be able to explain the concept of immunity and how it is brought about by T and B lymphocytes.
  - 2.13 Students will be able to explain how gases are exchanged in the body by the process of diffusion.
  - 2.14 Students will be able to explain how the nervous system is involved in the regulation of breathing.
  - 2.15 Students will be able to distinguish the differences between mechanical and chemical digestion.

- 2.16 Students will be able to explain the importance of selected enzymes in the digestion of carbohydrates, lipids and proteins.
- 2.17 Students will be able to explain the process of urine formation.
- 2.18 Students will be able to explain how various hormones control the processes related to reproductive function.
- 3. Read and understand terminology associated with the anatomy and physiology of each organ system.
  - 3.1 Students will be able to identify and understand the meaning of word roots, prefixes and suffixes related to science.
  - 3.2 Students will be able to understand the meaning of directional terms.
  - 3.3 Students will be able to understand regional terminology associated with the human body.
  - 3.4 Students will be able to understand basic chemistry terminology related to anatomy and physiology.
- 4. Relate the content of this course to their own lives and prepare for more advanced work in anatomy and physiology.
  - 4.1 Students will be able to describe in general selected homeostatic imbalances associated with the cells, tissues, organs and organ systems of the body.