

# C-ID Descriptor

## Human Physiology with Lab

### Descriptor Details

- **Descriptor Title:** Human Physiology with Lab
- **C-ID Number:** 120
- **Suffix:**
  - Lab and Lecture (B)
- **Units:** 4.0
- **Date of Last Revision:** 10/12/2017 04:43:55 PM PDT

### General Description

**Study of the physiological principles, function, integration and homeostasis of the human body at the cellular, tissue, organ, organ system and organism level: integumentary system, bone, skeletal, smooth and cardiac muscles, nervous system, sensory organs, cardiovascular system, lymphatic and immune systems, respiratory system, urinary system, digestive system, endocrine system, and reproductive system.** This course is primarily intended for Nursing, Allied Health, Kinesiology, and other health related majors.

### Prerequisites

No information provided

### Corequisites

No information provided

### Advisories

1. Eligible for college-level English (C-ID ENGL 100).
2. Eligible for college-level math (C-ID MATH 110, 120, 130, 140, 150, 151 OR any other course with Intermediate Algebra as a prerequisite)
3. Non-majors general biology course and Biology 110 and college-level chemistry.

## **Content**

Must include, but are not limited to:

- 1. The chemistry of life**
- 2. Homeostasis and feedback systems**
- 3. Cell membrane, and cell-cell communication**
- 4. Major body control systems**
- 5. Functions of the integumentary system**
- 6. Role of bone tissue in homeostasis**
- 7. Skeletal muscle structure and function**
- 8. Membrane potential and action potentials**
- 9. Nervous system and integration**
- 10. Sense organ function**
- 11. Heart and cardiac cycle**
- 12. Cardiovascular system function and regulation**
- 13. Lymphatic system functions and immunity**
- 14. Respiratory system function and regulation**
- 15. Urinary system function and regulation**
- 16. Water, electrolyte and acid-base balance**
- 17. Digestion and nutrition**
- 18. Metabolism**
- 19. Thermoregulation**
- 20. Endocrine functions and regulation**
- 21. Reproductive functions and regulation**
- 22. Clinical applications**

## **Lab Activities**

**This course must include a greater than 80% hands-on learning supporting the course outcomes. Laboratory content must be considered when matching courses to this descriptor. Typical lab activities would involve investigation or activities related to human respiration, cardiac function, blood pressure, acid-base balance, urinary output, sensory reflexes and sensory systems or similar activities that illustrate the principles of human body function and homeostasis. Lab experimentation should involve the scientific method.**

## Objectives

*At the conclusion of this course, the student should be able to:*

1. **Describe and distinguish various roles of major classes of biomolecules in living cells.**
2. **Describe key functional features of different types of human cells and how they communicate.**
3. **Identify key functions of major organ systems and the physiological mechanisms underlying their operation.**
4. **Demonstrate an understanding of how organ systems of the body are integrated and regulated.**
5. **Demonstrate an understanding of how homeostasis is maintained in the body.**
6. **Demonstrate knowledge of metabolic and physiological disorders of the major organ systems.**
7. **Analyze experimental data to demonstrate physiological principles.**
8. **Demonstrate an understanding of the scientific method, experimental design, and the philosophy of science. Apply the scientific method and philosophy of science by designing components of and carrying out physiological experiments.**

## Evaluation Methods

**Objective and subjective examinations and lab reports.**

**Practical examinations, case studies, and clinical applications may be included.**

## Textbooks

**Current (within 5 years) college level Physiology text such as Vander, Silverthorn, Fox, and current laboratory manual or lab manual developed on site.**

Support materials such as BioPac or data acquisition systems, and PhysioEx or similar interactive computer programs are appropriate for the course.