

**PHYSIO 58 Course Outline as of Summer 2007****CATALOG INFORMATION**

Dept and Nbr: PHYSIO 58      Title: INTRO HUMAN PHYSIO  
 Full Title: Introduction to Human Physiology  
 Last Reviewed: 1/27/2020

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

**Catalog Description:**

This is an introductory course in human physiology, organized around body systems and the theme of homeostasis. The course is designed for the beginning student preparing for health-related fields, especially vocational nursing, radiologic technology, massage, or those with a general interest in the function of the human body. This course will entail less bio-chemical and quantitative details than taught in the general physiology course (e.g., Physiology 1), focusing on the fundamental concepts of physiology. (Not intended for physical education, nursing (RN), dental hygiene, or physical therapy majors.)

**Prerequisites/Corequisites:****Recommended Preparation:**

Completion of Chem 60. Eligibility for Engl 1A.

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Introductory course in human physiology for beginning students preparing for these health-related fields: vocational nursing, radiologic technology, massage, or those with a general

interest in function of the human body. (Not intended for physical education, registered nursing (RN), Dental Hygiene, or physical therapy majors.) (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Completion of Chem 60. Eligibility for Engl 1A.

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

### **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>		Effective:	Inactive:
	C	Natural Sciences	Fall 1997	
<b>CSU GE:</b>	<b>Transfer Area</b>		Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>		Effective:	Inactive:
<b>CSU Transfer:</b>	Transferable	Effective:	Fall 1997	Inactive:
<b>UC Transfer:</b>		Effective:		Inactive:

**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

### **COURSE CONTENT**

**Outcomes and Objectives:**

Upon completion of this course students will be able to:

1. Define homeostasis and explain how feedback mechanisms function to maintain homeostasis.
2. Describe the function of the major organ systems of the body, including the nervous, endocrine, muscular, circulatory, respiratory, digestive, urinary, immune, reproductive systems.
3. Identify the roles of the nervous and endocrine systems in regulation of other organ systems.
4. Compare and contrast the basic mechanisms by which organ systems of the body maintain homeostasis.
5. Explain how the structure of cells supports the function of organ systems.
6. Conduct simple physiological experiments using standard laboratory equipment.
7. Apply knowledge about the function of the body to understanding the physiological basis for some of the major diseases and disorders of the human body.

**Topics and Scope:**

1. Introductory concepts
  - a. scientific method
  - b. levels of biological organization

- c. homeostasis
2. Cell structure and function
  - a. macromolecules
  - b. organelles
  - c. cell membranes
  - d. ATP (adenosine triphosphate) and enzymes
3. Control systems: nervous and endocrine
  - a. neurons, membrane potentials, synapses
  - b. structure and function of CNS (central nervous system), PNS (peripheral nervous system), ANS (autonomic nervous system)
  - c. sensory receptors, transduction
  - d. endocrine glands, hormones
4. Muscle System
  - a. skeletal, cardiac, smooth muscle
  - b. muscle contraction
5. Circulatory System
  - a. basic plan of circulation
  - b. cardiac cycle
  - c. blood vessels and blood pressure
  - d. regulation of cardiac output, blood pressure
  - e. basis for heart attack, hypertension, atherosclerosis
6. Respiratory System
  - a. ventilation
  - b. gas exchange
  - c. regulation of respiratory rate
  - d. description of chronic obstructive pulmonary disease
7. Urinary System
  - a. formation of urine
  - b. regulation of salt and water balance
  - c. regulation of acid - base balance
8. Digestive System
  - a. organs and enzymes of digestion
  - b. factors that affect absorption
9. Immune System
  - a. injury and infection
  - b. organs, cells and molecules that provide immune defense
10. Reproductive System
  - a. organs and hormones involved in sperm production
  - b. organs and hormones of menstrual cycle, pregnancy, parturition, lactation
11. Laboratory exercises
  - a. homeostasis
  - b. blood chemistry
  - c. enzyme activity
  - d. reflex arc
  - f. senses
  - g. muscle contraction
  - h. cardiac function
  - i. pulmonary function
  - j. renal function
  - k. acid base balance
  - l. glucose tolerance test

## Assignment:

1. Read an average of 25-40 pages of text per week
2. Laboratory experiments and data collection
3. Written laboratory reports, 2-4 per month
4. Written homework assignments may be required
5. Examinations: weekly quizzes, 3 lecture exams, a cumulative exam

## Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Lab reports

Writing  
20 - 50%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving  
0 - 0%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion, Essay

Exams  
30 - 80%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Class attendance and participation

Other Category  
0 - 20%

## Representative Textbooks and Materials:

Lecture:

FUNDAMENTALS OF PHYSIOLOGY: A Human Perspective by Lauralee Sherwood, 2005; West Publishers, third edition

Laboratory:

HUMAN PHYSIOLOGY LABORATORY MANUAL, by Susan Wilson, Life Sciences Instructor, 2006