

COLLEGEWIDE COURSE OUTLINE OF RECORD

APHY 201, ADVANCED HUMAN PHYSIOLOGY

COURSE TITLE: Advanced Human Physiology

COURSE NUMBER: APHY 201

PREREQUISITES: APHY 101, Anatomy and Physiology I and APHY 102, Anatomy and Physiology II

SCHOOL: Liberal Arts and Sciences

PROGRAM: Liberal Arts

CREDIT HOURS: 4

CONTACT HOURS: Lecture: 3 Lab: 2

DATE OF REVISION: Spring, 2004

EFFECTIVE DATE OF THIS REVISION: Fall, 2008

CATALOG DESCRIPTION: Provides a study of human physiology for students entering health-oriented fields. Emphasizes the study of the function of cells, the nervous, muscular, circulatory, respiratory, urinary, digestive and endocrine systems, and their homeostatic mechanisms and system interaction. Focuses laboratory exercises on clinically relevant measurement of human function.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Describe cellular functions and the role of the plasma membrane.
2. Demonstrate a working knowledge of the functions of the central and peripheral nervous systems.
3. Describe the physiology of contraction in the three muscle types.
4. Describe the physiology of the cardiovascular and lymphatic systems.
5. Describe the physiology of the respiratory system including gas transport.
6. Describe the maintenance and regulation of the composition of fluid compartments.
7. Describe the processes of nutrient digestion, absorption and utilization.
8. Describe hormonal control of systemic function.
9. Demonstrate competencies in proper use and analyses of physiologic instrumentation.

COURSE CONTENT: Topical areas of study include -

Lecture Content:

Cell membrane transport

Muscle physiology: skeletal, smooth, and cardiac

Cardiac physiology including cardiac conduction and EKG

Circulation physics of pressure, flow, and resistance

Renal physiology with discussion of acid/base balance, fluid, and blood pressure regulation

Respiratory physiology: ventilation and respiration

Discussion of clinical conditions

Regulatory mechanisms of the nervous and endocrine system
Digestive physiology

Lab Content:

Suggested Topics/Activities:

Scientific method/research components
Membrane transport
Computer simulations
Handgrip dynamometry
Electromyography and muscle stimulation
Blood labs
Frog model
Electrocardiography and heart rate
Blood pressure response
Urinalysis
Pulmonary function testing
Clinical testing and application of senses, equilibrium, reflexes
Electroencephalogram
Digestive enzyme activity
Exercise physiology
Case studies/Critical thinking applications
Integration of body systems

ACADEMIC HONESTY STATEMENT:

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Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

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