

Introduction to the Human Body (KINE 200)

Course Outline

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Course Description

This course will present a broad-based examination of the human body; its structure and function, how various organ systems function in a coordinated fashion to allow the body to properly function as an organism. The changes in the body that naturally occur throughout the life span (i.e. growth, development and aging) will be discussed. Also examined will be theories of human evolution, and demographic trends of humans residing in this country and throughout the world. Finally, the impact that the environment has on the human body will be discussed along with the impacts that humans have on the environment and surroundings.

Course Objectives

Objectives for KINE 200 have been selected to meet the criteria established for GER 2 courses. Criterion 1 relates to gaining a body of knowledge within a particular scientific discipline. This allows understanding of: A) What types of questions should be posed and how one can go about answering them; B) How scientific theories are developed and tested; and 3) The nature of science and the limits of empirical knowledge. Criterion 2 relates to an appreciation of the broader context for that knowledge of the particular scientific discipline. All GER 2 courses must achieve an understanding of at least three of the following: A) The character of natural laws, B) The role of mathematics in science, C) The centrality of cause and effect reasoning to the scientific world view, D) The fundamental importance of change and evolution, E) The characteristic scales and proportions of natural phenomena, F) The historical development of science and its cultural and intellectual context.

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

- 1) Describe the scientific method, inductive/deductive reasoning, and what constitutes a theory.
- 2) Understand how the body's cells and tissues are specialized to perform specific functions enabling proper function of the body as a whole organism
- 3) Appreciate how different organ systems are integrated functionally and structurally to allow proper function of the body as a whole organism
- 4) Recognize factors that regulate energy balance within the body and how the body converts consumed foodstuffs into energy
- 5) Describe changes in the structure and function of the human body throughout the lifespan
- 6) Understand demographic changes in humans in the U.S. and throughout the world and how inferential statistics are used to quantify those changes and that technique's inherent limitations
- 7) Recognize how environmental forces (i.e. altitude, heat, cold) impact the human body
- 8) Realize how humans influence the environment and surroundings in which they live
- 9) Appreciate how evolutionary factors contributed to the present form and function of the human body and understand how various theories on evolution were developed and tested through the decades

Required Textbook

Human Biology, Daniel D. Chiras, 7th edition, Jones and Bartlett Publishers, Inc. (2012)

Course Evaluation

Final grades will be based on the following:

Exam #1 = 30%

Exam #2 = 30%

Final Exam (comprehensive) = 40%

Schedule for Lecture Topics

- 1) Definition of “living” organisms, uniqueness of human, scientific method (ch 1)
- 2) Chemical composition of the body and protein structure (ch 2)
- 3) Cell structure and transcription/translation (ch 3, except sections 3-5 [Energy and Metabolism] and 3-6 [Fermentation])
- 4) Inter-relatedness of structure and function (ch 4)
EXAM 1
- 5) Regulation of food intake and energy balance (ch 5)
- 6) Metabolic pathways of ATP production (ch 3, only sections 3-5 [Energy and Metabolism])
- 7) Thermoregulation
- 8) Infectious diseases (ch 15)
EXAM 2
- 9) Evolution (ch 23)
- 10) Development and aging (ch 22)
- 11) Demographic patterns of humans
COMPREHENSIVE FINAL