GLENDALE UNIFIED SCHOOL DISTRICT

Senior High School

February 18, 1997

Department: Science

Course Title: Honors Physiology 1-2

Course Number:

Grade Level: 10 - 12

Semester Hours: 5 + 5

Prerequisite: Academic G.P.A. of B or better
B or better average in Biology 1-2
B or better average in Chemistry 1-2

Course Description: This course portrays the human body as a living, functioning, homeostatic organism. The systems approach is used and emphasis is on how organs and body systems work together to carry on complex functions. The many parts of the body are described and related to their role in the organism and their interaction with other structures. Clinical material is introduced, where appropriate, to give the student a glimpse into the disease processes and other aspects of clinical physiology. Bodily functions are contrasted with the consequences of disruptions of the body's homeostasis.

I. Goals

The student will:

A. Understand how the body is organized.

B. Understand how the body is supported and how the body moves.

C. Understand how body activities are regulated.

D. Understand the circulatory system as internal transport and defense.

E. Understand how the body obtains oxygen, nutrients, and maintains bodily fluids.

F. Understand how the human species is perpetuated.

G. Understand how growth and development differentiate a human body.

H. Understand the fundamentals of exercise physiology.

II. Performance Objectives

The students will demonstrate the interrelationship between organs and structure within the human body as a living, functioning, homeostatic organism in the following ways:

A. Organize the human body systems into organ systems by charting. Use their knowledge of the microscope when observing cells and tissues of the body. Compare cell structure to tissue function of various tissue types and body systems.

B. Identify the bones of the human skeleton through observation. Identify the cause and effect relationships between the skeletal system and the muscular system through experimentation.

C. Identify the components of the nervous system and the brain through observation. Compare the body's homeostatic state to the function of the endocrine system through observation and discussion.

D. Identify the components of the excretory system and the role they play in homeostatic regulation through observation and discussion.

E. Identify the components of the circulatory system and the heart through observation and discussion. Compare the structure and function of the heart and circulatory system to the body's defense mechanisms through observation and discussion.

F. Identify the major diseases of each body system through charting and discussion. List the cause and effect of pathogenic disorders on the immune system.

G. Identify the components of the respiratory, digestive, and urinary systems through observation. Compare and contrast through charting the methods of: getting nutrition, metabolism, and thermoregulation. Compare the concept of homeostasis to fluid, electrolyte, and acid-base balance in discussion.

H. Identify the components of the reproductive system through observation. Identify the stages of pregnancy and development of the young through observation.

I. Predict the inheritance of certain varietal traits through observation. Identify hereditary traits and the probability of their transmission.

J. Predict the causes and effects of exercise on the different systems of the human body. Compare and contrast the effects of exercise on the cardiovascular,

respiratory, thermoregulatory, and endocrine systems through observation, exercise, and discussion. Explain the relationship of exercise to percentage of body fat through observation and discussion.

K. Complete and submit instructor suggested long-term projects. (Two per semester) Including, but not limited to, volunteering in a health-related facility for a minimum of 36 hours per semester.

III. Accountability Determinants

A. Tests (teacher-made, departmental, standardized).

B. Classroom observation, including improvement and attitude.

C. Classroom participation in laboratory and discussion.

D. Laboratory and experimental reports.

E. Notebooks and/or portfolios.

IV. Suggested Time Distribution

The time distributions are norms and may be modified to fit the individual needs of the student.

A.	How the body is organized	29 days
B.	How the body is supported, how the body moves	29 days
C.	How the body activities are regulated	28 days
D.	How the circulatory system acts in transport and defense	37 days
E.	How the human body obtains oxygen, nutrients, and maintains bodily fluids	31 days
F.	How the human species is perpetuated	10 days
G.	How growth and development differentiate the human body	10 days
H.	The fundamentals of exercise physiology	6 days
		180 days