eDynamicLearning
CAREER & ELECTIVE COURSES

eDynamic Learning Course Title: Anatomy & Physiology 1a / 1b

State: TX
State Course Title: Anatomy and Physiology
State Course Code: 130.224
State Standards: Anatomy and Physiology
Date of Standards: 2015

TEKS	Course Title. (a or b), if applicable, e.g. Game Design 1a	Unit Name(s)	Lesson(s) Numbers
(1) The student demonstrates professional standards/employability skills as required by business and industry			
(A) demonstrate verbal and non-verbal communication in a clear, concise, and effective manner and	Anatomy & Physiology 1b	Unit 6: The Endocrine System	Lab
(B) exhibit the ability to cooperate, contribute, and collaborate as a member of a team.	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 3
(2) The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices. These investigations must involve actively obtaining and analyzing data with physical equipment, but may also involve experimentation in a simulated environment as well as field observations that extend beyond the classroom.			
(A) demonstrate safe practices during laboratory and field investigations	Anatomy & Physiology 1a	Unit 6: The Integumentary System	Lab
(B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Critical Thinking 4
(3) The student uses scientific methods and equipment during laboratory and field investigations			
(A) know the definition of science and understand that it has limitations, as specified in subsection (b)(4) of this section	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(B) know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power that have been tested over a wide variety of conditions are incorporated into theories	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2

(C) know that scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but they may be subject to change as new areas of science are created and new technologies emerge	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(D) distinguish between scientific hypotheses and scientific theories	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(G) analyze, evaluate, make inferences, and predict trends from data	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(H) communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lab
(4) The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom			
(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lab
(B) communicate and apply scientific information extracted from various sources such as accredited scientific journals, institutions of higher learning, current events, news reports, published journal articles, and marketing materials	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lab
(C) draw inferences based on data related to promotional materials for products and services	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lab

(D) evaluate the impact of scientific research on society and the environment	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(E) evaluate models according to their limitations in representing biological objects or events	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 2
(F) research and describe the history of science and contributions of scientists	Anatomy & Physiology 1b	Unit 8: The Science and Technology of Anatomy and Physiology	Lesson 1
(5) The student evaluates the energy needs of the human body and the processes through which these needs are fulfilled			
(A) analyze the chemical reactions that provide energy for the body	Anatomy & Physiology 1a	Unit 1: Human Body Organization	Lesson 2
(B) evaluate the modes, including the structure and function of the digestive system, by which energy is processed and stored within the body	Anatomy & Physiology 1b	Unit 3: The Digestive System	Lessons 1-4
(C) analyze the effects of energy deficiencies in malabsorption disorders as they relate to body systems such as Crohn's disease and cystic fibrosis	Anatomy & Physiology 1b	Unit 3: The Digestive System	Lesson 4
(D) analyze the effects of energy excess in disorders as they relate to body systems such as cardiovascular, endocrine, muscular, skeletal, and pulmonary	Anatomy & Physiology 1a	Unit 1: Human Body Organization	Lessons 1-4
(6) The student differentiates the responses of the human body to internal and external forces			
(A) explain the coordination of muscles, bones, and joints that allows movement of the body	Anatomy & Physiology 1a	Unit 3: The Skeletal System	Lesson 4
(B) investigate and report the uses of various diagnostic and therapeutic technologies	Anatomy & Physiology 1a	Unit 5: The Nervous System	Lab
(C) interpret normal and abnormal contractility conditions such as in edema, glaucoma, aneurysms, and hemorrhage	Anatomy & Physiology 1b	Unit 6: The Endocrine System	Lesson 2
(D) analyze and describe the effects of pressure, movement, torque, tension, and elasticity on the human body	Anatomy & Physiology 1a	Unit 4: The Muscular System	Lesson 5
(E) perform an investigation to determine causes and effects of force variance and communicate findings	Anatomy & Physiology 1a	Unit 4: The Muscular System	Lesson 1
(7) The student examines the body processes that maintain homeostasis			
(A) investigate and describe the integration of the chemical and physical processes, including equilibrium, temperature, pH balance, chemical reactions, passive transport, active transport, and biofeedback, that contribute to homeostasis	Anatomy & Physiology 1a	Unit 1: Human Body Organization	Lessons 1, 2
(B) determine the consequences of the failure to maintain homeostasis	Anatomy & Physiology 1a	Unit 2: Chemistry of the Body	Lesson 1
(8) The student examines the electrical conduction processes and interactions			
(A) illustrate conduction systems such as nerve transmission or muscle stimulation	Anatomy & Physiology 1a	Unit 5: The Nervous System	Lesson 1

(B) investigate the therapeutic uses and effects of external sources of electricity on the body system	Anatomy & Physiology 1a	Unit 8: The Cardiovascular System and the Heart	Lesson 3
(C) evaluate the application of advanced technologies such as electroencephalogram, electrocardiogram, bionics, transcutaneous electrical nerve stimulation, and cardioversion	Anatomy & Physiology 1a	Unit 5: The Nervous System	Lesson 1
(9) The student explores the body's transport systems			
(A) analyze the physical, chemical, and biological properties of transport systems, including circulatory, respiratory, and excretory	Anatomy & Physiology 1a	Unit 8: The Cardiovascular System and the Heart	Lesson 1
(B) determine the factors that alter the normal functions of transport systems	Anatomy & Physiology 1a	Unit 7: Essential Knowledge About Blood	Lessons 1, 4
(C) contrast the interactions among the transport systems	Anatomy & Physiology 1b	Unit 2: The Respiratory System	Lesson 3
(10) The student investigates environmental factors that affect the human body			
(A) identify the effects of environmental factors such as climate, pollution, radioactivity, chemicals, electromagnetic fields, pathogens, carcinogens, and drugs on body systems	Anatomy & Physiology 1b	Unit 8: The Cardiovascular System and the Heart	Lab
(B) explore measures to minimize harmful environmental factors on body systems	Anatomy & Physiology 1b	Unit 8: The Cardiovascular System and the Heart	Lab
(11) The student investigates the structure and function of the human body			
(A) analyze the relationships between the anatomical structures and physiological functions of systems, including the integumentary, nervous, skeletal, muscular, cardiovascular, respiratory, digestive, urinary, immune, endocrine, and reproductive systems	Anatomy & Physiology 1b	Unit 2: The Respiratory System	Lesson 3
(B) evaluate the cause and effect of disease, trauma, and congenital defects on the structure and function of cells, tissues, organs, and systems	Anatomy & Physiology 1a	Unit 2: Chemistry of the Body	Lessons 2-4
(C) research technological advances and limitations in the treatment of system disorders	Anatomy & Physiology 1b	Unit 5: The Reproductive System and Genetics	Lesson 4
(D) examine characteristics of the aging process on body systems	Anatomy & Physiology 1a	Unit 4: The Muscular System	Lesson 5
(12) The student describes the process of reproduction and growth and development			
(A) explain embryological development of cells, tissues, organs, and systems	Anatomy & Physiology 1b	Unit 5: The Reproductive System and Genetics	Lesson 3
(B) identify the functions of the male and female reproductive systems	Anatomy & Physiology 1b	Unit 5: The Reproductive System and Genetics	Lessons 1-4

(C) summarize the human growth and development cycle	Anatomy & Physiology 1b	Unit 5: The Reproductive System and Genetics	Lesson 4
(13) The student recognizes emerging technological advances in science			
(A) recognize advances in stem cell research such as cord blood use	Anatomy & Physiology 1b	Unit 5: The Reproductive System and Genetics	Lesson 4
(B) recognize advances in bioengineering and transplant technology	Anatomy & Physiology 1b	Unit 8: The Cardiovascular System and the Heart	Lesson 3