Texas CTE: Health Science

Kinesiology 1

The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to: KINES1 1	A	express ideas in a clear, concise, and effective manner; KINES1 1.A
	B	exhibit the ability to cooperate, contribute, and collaborate as a member of a team; and KINES1 1.B
	C	identify employer expectations such as punctuality, attendance, time management, communication, organizational skills, and productive work habits. KINES11.C
The student demonstrates communication skills using the terminology applicable to the health science industry. The student is expected to: KINES1 2	A	demonstrate appropriate verbal and written strategies such as correct pronunciation of medical terms and spelling in a variety of health science scenarios; KINES1 2.A
	B	employ increasingly precise language to communicate; and KINES1 2.B
	C	translate technical material related to the health science industry KINES1 2.C
The student uses verbal and nonverbal communication skills. The student is expected to: KINES1 3	A	identify components of effective and non-effective communication; KINES1 3.A
	B	demonstrate effective communication skills for responding to the needs of individuals in a diverse society; KINES1 3.B
	C	evaluate the effectiveness of conflict-resolution techniques in various situations; and KINES1 3.C
	D	accurately interpret, transcribe, and communicate medical vocabulary using appropriate technology KINES1 3.D
The student implements the leadership skills necessary to function in a democratic society. The student is expected to: KINES1	A	identify traits of a leader; KINES1
	B	demonstrate leadership skills, characteristics, and responsibilities of leaders such as goal setting and team building; and KINES1
	C	demonstrate the ability to effectively conduct and participate in meetings KINES1
The student discusses various careers in kinesiology-related	A	compare the educational requirements for associate's, bachelor's, and master's degrees'; KINES1

fields, the diversity of knowledge that characterizes the field of kinesiology, and how societal changes have increased the demand for kinesiology graduates. The student is expected to: KINES1	B differentiate between a certification, registration, and licensure; KINES1
	C describe kinesiology-related careers by including a definition of the career, three duties, educational requirements, and employment opportunities; and KINES1
	D explain what changes in society have increased Kinesiology employment KINES1
The student explains the importance of early exposure to physical activity for optimal growth, motor development, and physical literacy. The student is expected to: KINES1	A define kinesiology and explain its importance of human motion; KINES1
	B define growth, motor development, and physical literacy and outline the various stages of development; KINES1
	C describe the various factors affecting optimal growth, motor development, and physical literacy across the life cycle; and KINES1
	D demonstrate an understanding of individual differences in growth and motor development and how they affect the design of movement-based activities. KINES1
The student examines the skeletal framework and its movements as the foundation for all movement. The student is expected to: KINES1	A classify joints according to structure and explain the relationship between a joint structure and its capacity for movement; KINES1
	B identify the factors, including joint structure, age and gender, and muscle size that contribute to joint range of motion (ROM) and stability; KINES1
	C explain a joint's range of motion, evaluate the range, and describe desirable procedures for changing when indicated; KINES1
	D define the orientation positions and planes of the body and the axes of motion, including sagittal, transverse, frontal; and KINES1
	E demonstrate and name fundamental movement patterns using correct movement terminology. KINES1
The student investigates the structure and function of the muscular system. The student is expected to: KINES1	A describe the structure and properties of the whole muscle, fast and slow twitch muscle fibers, and the myofibril; KINES1
	B define the roles a muscle may play such as agonist, antagonist, and synergist and explain the interdependence between them and their roles in a specified movement; KINES1
	C define the types of muscular contraction, including concentric, eccentric, and static, and name and demonstrate each type of action; and KINES1

	D analyze the force-velocity and length-tension relationships of muscular contraction and explain the significance of these relationships in static and dynamic movements. KINES1
The student investigates the structure and function of the muscular system and describe the neuromuscular basis of human motion. The student is expected to: KINES1	**A** define and describe the functions of the basic structures of the nervous system; KINES1
	B explain how graduations in strength of muscle contraction and precision of movement occur; KINES1
	C define the receptors that are important in musculoskeletal movement; KINES1
	D explain how the various receptors function and describe the effect each has on musculoskeletal movement; KINES1
	E describe reflex action and enumerate and differentiate among the reflexes that affect musculoskeletal action; and KINES1
	F demonstrate a basic understanding of volitional movement by describing the nature of the participation of the anatomical structures and mechanisms involved. KINES1
The student investigates the structure and function of the shoulder region. The student is expected to KINES1	**A** define, locate, and describe the structure and ligamentous reinforcements of the articulations of the shoulder region; KINES1
	B define and demonstrate the movements possible in the joints of the shoulder region; KINES1
	C define and locate the muscles and muscle groups of the shoulder region, and name their primary actions as agonists, stabilizers, neutralizers, or antagonists; KINES1
	D analyze the fundamental movements of the arm and trunk with respect to joint and muscle actions; and KINES1
	E describe the common injuries of the shoulder region KINES1
The student investigates the structure and function of the elbow, forearm, wrist, and arm. The student is expected to: KINES1	**B** define and demonstrate the movements possible in the joints of the elbow, forearm, wrist, and hand regardless of starting position; KINES1
	C define and locate the muscles and muscle groups of the elbow, forearm, wrist, and hand, and name their primary actions as agonists, stabilizers, neutralizers, or antagonists; KINES1
	D analyze the fundamental movements of the forearm, hand, and fingers with respect to joint and muscle actions; and KINES1

	E describe the common athletic injuries of the forearm, elbow, wrist, and fingers. KINES1
define, locate, and describe the structure and ligamentous reinforcements of the articulations of the elbow, forearm, wrist, and hand; KINES1	**A** define, locate, and describe the structure and ligamentous reinforcements of the articulations of the elbow, forearm, wrist, and hand; KINES1
The student investigates the structure and function of the hip region. The student is expected to: KINES1	**A** define, locate, and describe the structure and ligamentous reinforcements of the articulations of the pelvic girdle and hip joint; KINES1
	B define and demonstrate the movements possible in the pelvic girdle and hip joint, regardless of starting position; KINES1
	C define and locate the muscles and muscle groups of the pelvis and hip, and name their primary actions as agonists, stabilizers, neutralizers, or antagonists; KINES1
	D analyze the fundamental movements of the pelvis and thigh with respect to joint and muscle actions; and KINES1
	E describe the common athletic injuries of the pelvis, hip, and thigh KINES1
The student investigates the structure and function of the knee, ankle, and foot. The student is expected to: KINES1	**A** define, locate, and describe the structure and ligamentous reinforcements of the articulations of the knee, ankle, and foot; KINES1
	B define and demonstrate the movements possible in the knee, ankle, and foot, regardless of starting position; KINES1
	C define and locate the muscles and muscle groups of the knee, ankle, and foot, and name their primary actions as agonists, stabilizers, neutralizers, or antagonists; KINES1
	D analyze the fundamental movements of the knee, ankle, and foot with respect to joint and muscle actions; and KINES1
	E describe the common athletic injuries of the knee, ankle, and foot KINES1
The student investigates the structure and function of the spinal column and thorax. The student is expected to: KINES1	**A** locate, and describe the structure and ligamentous reinforcements of the articulations of the spinal column and thorax; KINES1
	B define and demonstrate the movements possible in the joints of the spinal column and thorax including the muscles and muscle groups regardless of starting position; KINES1

	C analyze the fundamental movements of the spinal column and thorax with respect to joint and muscle actions; and KINES1
	D describe the common injuries of the spinal column and thorax. KINES1
The student examines the fundamental principles of biomechanics, take measurements, and perform calculations. The student is expected to: KINES1	**A** compare the terms mechanics and biomechanics and explain the difference; KINES1
	B define the terms kinematics, kinetics, statics, and dynamics, and state how each relates to the structure of biomechanics of study; and KINES1
	C solve problems that identify different units of measurement related to kinesiology. KINES1
The student demonstrates knowledge of the skeletomuscular and neuromuscular mechanisms involved in the standing position. The student is expected to: KINES1	**A** identify the physiological functions of the skeletomuscular and neuromuscular systems in regard to standing posture; KINES1
	B discuss the role of genetics and lifestyle choices on the effects of our skeletomuscular and neuromuscular systems in relation to standing posture; KINES1
	C distinguish the factors that affect stability and energy cost of the erect position; and KINES1
	D analyze the posture of individuals of different ages and body builds using static and dynamic movements such as overhead squat assessment KINES1
The student describes the fundamentals of human motion. The student is expected to: KINES1	**A** identify the kinds of motion experienced by the human body and describe the factors that cause and modify motions; KINES1
	B create a scenario that uses the terms that describe linear and rotary motion: position, displacement, distance, speed, velocity, and acceleration; and KINES1
	C describe the relationship between linear and rotary movement and explain the significance of this relationship to human motion. KINES1
The student demonstrates knowledge of a selected motor skill, breaking down into component phases and identifying starting and ending points. The student is expected to: KINES1	**A** identify the muscle groups active in a variety of motor skills; KINES1
	B analyze the joint actions and planes of motion for a selected motor skill by observing and recording via video dynamic movement patterns; KINES1
	C explain the skill acquisition process and describe the stages of learning a skill; KINES1
	D describe the types of feedback and their roles in skill learning; and KINES1
	E design a learning environment using effective practice methods KINES1