

**Course Title:** Kinesiology  
**Board Approval Date:** 2/11/13  
**Credit / Hours:** .50 credit

**Course Description:**

This course focuses on mastery of the PA Academic Standards for Health, Safety and Physical Education, Science: Anatomy & Physiology Standards, Standards for the 21<sup>st</sup> Century Learner (HIGH STRAND), and Career Education and Work Standards. Students will learn human anatomy, specific muscle movements/biomechanics, and how it relates to human life and Newton's Laws of motion. Students will also learn about professions stemming from a Kinesiology Major/background. Students will need to study and develop a fluent knowledge of skeletal anatomy and muscular anatomy. Course rigor includes tests, quizzes, papers, and projects concerning the human body and its movements.

**Learning Activities / Modes of Assessment:**

Large group instruction	Tests and Quizzes
Group Activities/Tasks	Projects with Rubrics
Small group work	
Write-ups	

**Instructional Resources:**

Discovery Ed Streaming  
Various Videos  
Various Worksheets

## Course Pacing Guide

Course: **Kinesiology**

**Course Unit (Topic)**

**Length of Instruction (Days/Periods)**

1. History/Importance of Kinesiology

20 days

2. Human Anatomy

20 days

3. Functional Anatomy

20 days

4. Biomechanics

20 days

DAYS TOTAL

80 Days

Topic: 1. History/Importance of Kinesiology

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**8.1.12.B. – Unranked**

Evaluate the interpretation of historical events and sources, considering the use of fact versus opinion, multiple perspectives, and cause and effect relationships.

**8.1.12.A. – Unranked**

Evaluate patterns of continuity and rates of change over time, applying context of events.

How historic figures influenced kinesiology and what it means to us today. Also, today's professions stemming from kinesiology.

**13.1.A – Essential**

Relate careers to individual interests, abilities, and aptitudes.

**1.1.2 – Unranked**

Use prior and background knowledge as context for new learning.

**1.1.6 – Unranked**

Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.

**1.1.9 – Unranked**

Collaborate with others to broaden and deepen understanding.

**1.4.2 – Unranked**

Use interaction with and feedback from teachers and peers to guide own inquiry process.

**1.4.4 – Unranked**

Seek appropriate help when it is needed.

**2.1.5 – Unranked**

Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.

**2.3.1 – Unranked**

Connect understanding to the real world.

**3.2.2 – Unranked**

Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.

**3.2.3 – Unranked**

Demonstrate teamwork by working productively with others.

**3.4.3 – Unranked**

Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.

Topic: 1. History/Importance of Kinesiology

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**8.1.12.B. – Unranked**

Evaluate the interpretation of historical events and sources, considering the use of fact versus opinion, multiple perspectives, and cause and effect relationships.

**8.1.12.A. – Unranked**

Evaluate patterns of continuity and rates of change over time, applying context of events.

Topic: 2. Human Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

Basic skeletal and muscular anatomy as well as body planes and axes.

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

**10.5.12.A – Essential**

Apply knowledge of movement skills, skill-related fitness and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.

**S11.C.3.1.5 – Unranked**

Calculate the mechanical advantage of moving an object using a simple machine.

**S11.B.1.1.1 – Essential**

Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical, ecological).

**13.1.A – Essential**

Relate careers to individual interests, abilities, and aptitudes.

Topic: 2. Human Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**S11.B.1.1.2 – Important**

Compare and contrast the structural and functional similarities and differences among living things (e.g., classify organisms into existing classification groups, compare systems).

**13.3.E – Important**

Evaluate time management strategies and their application to both personal and work situations.

**1.1.2 – Unranked**

Use prior and background knowledge as context for new learning.

**1.1.6 – Unranked**

Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.

**1.1.9 – Unranked**

Collaborate with others to broaden and deepen understanding.

**1.4.2 – Unranked**

Use interaction with and feedback from teachers and peers to guide own inquiry process.

**1.4.4 – Unranked**

Seek appropriate help when it is needed.

**2.1.5 – Unranked**

Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.

**2.3.1 – Unranked**

Connect understanding to the real world.

**3.2.2 – Unranked**

Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.

**3.2.3 – Unranked**

Demonstrate teamwork by working productively with others.

**3.4.3 – Unranked**

Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.

Topic: 2. Human Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

Topic: 3. Functional Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

Anatomic structures and roles of individual muscles.

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**10.5.12.A – Essential**

Apply knowledge of movement skills, skill-related fitness and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

**S11.C.3.1.5 – Unranked**

Calculate the mechanical advantage of moving an object using a simple machine.

**S11.B.1.1.1 – Essential**

Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical, ecological).

**13.1.A – Essential**

Relate careers to individual interests, abilities, and aptitudes.



Topic: 3. Functional Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**S11.B.1.1.2 – Important**

Compare and contrast the structural and functional similarities and differences among living things (e.g., classify organisms into existing classification groups, compare systems).

**13.3.E – Important**

Evaluate time management strategies and their application to both personal and work situations.

**1.1.2 – Unranked**

Use prior and background knowledge as context for new learning.

**1.1.6 – Unranked**

Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.

**1.1.9 – Unranked**

Collaborate with others to broaden and deepen understanding.

**1.4.2 – Unranked**

Use interaction with and feedback from teachers and peers to guide own inquiry process.

**1.4.4 – Unranked**

Seek appropriate help when it is needed.

**2.1.5 – Unranked**

Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.

**2.3.1 – Unranked**

Connect understanding to the real world.

**3.2.2 – Unranked**

Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.

**3.2.3 – Unranked**

Demonstrate teamwork by working productively with others.

**3.4.3 – Unranked**

Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.

Topic: 3. Functional Anatomy

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

Topic: 4. Biomechanics

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do:

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

Anatomic structure and roles of muscles. As well as how Newton's Laws of Motion impact the human body.

**10.5.12.D – Essential**

Incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use.

**10.5.12.E – Important**

Evaluate movement forms for appropriate application of scientific and biomechanical principles.

- efficiency of movement
- mechanical advantage
- kinetic energy
- potential energy
- inertia
- safety

**10.5.12.A – Essential**

Apply knowledge of movement skills, skill-related fitness and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.

**S11.C.3.1.1 – Unranked**

Explain common phenomena (e.g., motion of bowling ball, a rock in a landslide, an astronaut during a space walk, a car hitting a patch of ice on the road) using an understanding of conservation of momentum.

**S11.C.3.1.2 – Unranked**

Design or evaluate simple technological or natural systems that incorporate the principles of force and motion (e.g., simple and compound machines).

**S11.C.3.1.5 – Unranked**

Calculate the mechanical advantage of moving an object using a simple machine.

**S11.B.1.1.1 – Essential**

Explain how structure determines function at multiple levels of organization (e.g., chemical, cellular, anatomical, ecological).

**13.1.A – Essential**

Relate careers to individual interests, abilities, and aptitudes.

Topic: 4. Biomechanics

Days: 20

Subject(s):

Grade(s):

Topic: 4. Biomechanics

Days: 20

Subject(s):

Grade(s):

Know:

Understand:

Do: