PTA 2 Learning Objectives

As evidenced by successful performance and completion of written and practical examinations, assignments, laboratory activities, papers, oral reports, and role playing and analysis of clinical scenarios, the student will:

1.0 **Apply knowledge of anatomy and kinesiology principles.**
   1.1. Define kinesiology and the common terms associated with this study including kinematics, kinetics, torque, lever, etc..
   1.2 Identify the function and parts of the human skeleton.
   1.3 Define and recognize various types of joints, including synovial, cartilagenous, and fibrous.
   1.4 Define joint movement by referring to planes of movement and axes.
   1.5 Identify and palpate bony prominences and common surface anatomy sites.
   1.6 Discuss the concepts of mechanical advantage and leverage.
   1.7 Identify origins, insertions, innervations, and actions for major muscles of the trunk, neck, shoulder girdle, shoulder joint, elbow, wrist, hand, hip, knee, ankle and foot.
   1.8 Discuss the significance of muscular origins, insertions, innervations and actions as it relates to human movement and physical therapy practices.
   1.9 Identify the structure and function of the neck, trunk, and extremities.
   1.10 Identify joint play / accessory movement and their relationship to joint mobility techniques.
   1.11 Given movement scenarios including common activities of daily living, identify joint position, agonists and antagonists, and synergistic relationships.

2.0 **Demonstrate understanding of anatomy and kinesiology principles and principles of muscle contraction.**
   2.1 State the contractile and mechanical properties of muscle tissue including length, elasticity and extensibility.
   2.2 Know types of muscle contractions including, isometric, isotonic, concentric and eccentric.
   2.3 Explain the practical implications related to the types of muscle contractions including: isometric, isotonic, and concentric.
   2.4 State the difference between vector and scalar quantities.
   2.5 Explain, demonstrate, and analyze motion in terms of force direction, torque production, and Newton’s Laws of motion.
   2.6 Analyze muscular torque production of several muscle groups using the Cybex HUMAC/NORM
   2.7 Explain, demonstrate, and discuss the relationship between torque production and range of motion.

3.0 **Implement knowledge of anatomy and kinesiology principles with palpation of the upper and lower extremities, neck and trunk.**
   3.1 Palpate superficial bony prominences and soft tissue landmarks.
3.2 Use the skills of soft tissue and bony prominence palpation to identify joint components.
3.3 Report results of palpation and range of motion assessment to supervising physical therapist.

4.0 **Implement knowledge of anatomy and kinesiology principles with goniometry.**
   4.1 Define goniometry, its concepts and importance.
   4.2 Explain the importance of goniometry in the practice of physical therapy.
   4.3 Perform goniometry and functional assessment accurately and appropriately document range of motion, and recognize inappropriate documentation practices.
   4.4 Perform range of motion assessment using, digital, gravity, and water-based inclinometers.
   4.5 Analyze the consistency of range of motion measurement methods.
   4.6 Analyze and determine appropriate documentation of joint range of motion.

5.0 **Compare alternative methods of assessing human movement**
   5.1 Define terms such as electromyography and stroboscopic analysis.
   5.2 Demonstrate the ability to observe motion from goal orientation, anatomical, and segmental movement perspectives.

6.0 **Given patient scenarios, implement physical therapy treatment as directed by a physical therapist.**
   6.1 Perform techniques demonstrating an understanding of the role of the physical therapist assistant in rehabilitation.
   6.2 Perform techniques appropriately employing universal precautions and sound body mechanics.
   6.3 Perform palpation and goniometry techniques considering influences of pathologies.
   6.4 Perform muscle length assessment such as Thomas and Ober test.
   6.5 Perform palpation and goniometry techniques considering influencing factors (psychosocial, cultural, economic, patient satisfaction, legal/ethical, etc.).
   6.6 Correlate palpation sites with potential pathologies and precautions (entrapment, pressure sensitivity, etc.).
   6.7 Identify response(s) that require the attention of the supervising physical therapist or immediate interventions such as basic first aid or cardio-pulmonary resuscitation.
   6.8 Communicate patient response to supervising physical therapist.

7.0 **Demonstrate appropriate professional behavior.**
   7.1 Attend and be on time for class, lab, and scheduled appointments.
   7.2 Be prepared for lab activities; attend to tasks assigned.
   7.3 Accept constructive criticism and respond and/or follow through appropriately.
   7.4 Express self in a clear and easily understood manner.
7.5 Maintain appropriate personal hygiene.
7.6 Treat others with positive regard, dignity and respect.
7.7 Analyze and examine professional literature considering: specific scientific methods, interpretation of results, and clinical significance in order to foster further personal investigation and clinical effectiveness.
7.8 Explain the importance of life long learning.
7.9 Describe how professional development can occur.