Miami Dade College

Course Competency

PHT 2120L APPL KINESIOLOGY LAB

Course Description

Procedures in measuring and analyzing muscle strength and function as related to the biomechanics of human motion.

Course Competency	Learning Outcomes
Competency 1: The student will have an understanding of The Hip Region by:	1. Communication 2. Numbers / Data 3. Critical thinking 4. Computer / Technology Usage
1. Listing the joints that make up the hip joint and naming their articulating surfaces 2. Describing the motions available at the hip joint 3. Identifying the major ligaments associated with the hip joint 4. Naming origin, insertion, action and nerve supply of the major muscles of the hip joint 5. Describing the planes and accompanying motions at the lumbar spine and hip joints for the following pelvic motions: pelvic rotation, anterior / posterior pelvic tilting, and lateral tilting of the pelvis 6. Describing the procedure and alignment for measuring ROM of the hip joint 7. Describing the procedure and grading for manual muscle testing of the major muscle groups of the hip joint 8. Demonstrating manual muscle tests for the hip region 9. Demonstrating the range of motions of specific muscles/joints for the hip region 10. Demonstrating special tests utilized for the hip region	
Competency 2: The student will have an	

understanding of the Knee Region by:	
1. Listing the joints and articulations within the knee complex 2. Defining the function and structure of the menisci and ligaments in the knee complex 3. Identifying the major bursae found at the knee complex 4. Describing the motions available at the knee joint including the locking and unlocking of the knee when the femur is fixed and when the femur is free 5. Naming origin, insertion, action and nerve supply of the major muscles of the knee joint 6. Describing the procedure and alignment for measuring ROM of the Knee complex 7. Describing the procedure and grading for manual muscle testing of the major muscle groups of the knee joint 8. Demonstrating manual muscle tests for the knee region 9. Demonstrating the range of motions of specific muscles/joints for the knee region 10. Demonstrating special tests utilized for the knee region	
Competency 3: The student will demonstrate an understanding of the Ankle and Foot Region by:	
1. Listing the joints and articulations in the ankle-foot complex 2. Describing the motions available at the joints of the ankle-foot complex 3. Identifying the ligaments that support the joints of the ankle and foot 4. For the major muscle groups, naming the origin, insertion, action and nerve supply 5. Describing the procedure and alignment for measuring ROM of the ankle foot complex 6. Describing the procedure and grading for manual muscle testing of the major muscle groups of the ankle- foot complex 7. Describing the purpose and procedures of tests that pertain to the anatomy and pathological conditions of the ankle-foot	

region 8. Demonstrating manual muscle tests for the ankle and foot region 9. Demonstrating the range of motions of specific muscles/joints for the ankle and foot region 10. Demonstrating special tests utilized for the ankle and foot region	
Competency 4: The student will demonstrate an understanding of the trunk and neck by:	
1. Listing the joints that make up the vertebral column and naming their articulation surfaces 2. Describing the motions available at the vertebral column for each area 3. Describing the normal curves of the erect spine 4. Identifying the major ligaments associated with the spine 5. Defining intervertebral disc 6. Naming origin, insertion, action and nerve supply of the major muscles of the trunk 7. Demonstrating manual muscle tests for the trunk region 8. Demonstrating the range of motions of specific muscles/joints for the trunk region 9. Demonstrating special tests utilized for the trunk region	
Competency 5: The student will demonstrate an understanding of the shoulder region by:	
1. Listing the three structural (skeletal) components of the shoulder complex 2. Listing the four independent joints of the shoulder complex and identifying their articulating surfaces 3. Listing and defining the role of the major ligaments at each joint 4. Describing the motions available at each joint of the shoulder complex and in which plane it takes place 5. Demonstrating manual muscle tests for the shoulder region	

6. Demonstrating the range of motions of specific muscles/joints for the shoulder region 7. Demonstrating special tests utilized for the shoulder region	
Competency 6: The student will have an understanding of the Elbow Complex by:	
1. Identifying the structural components of the elbow complex 2. Identifying the articulating surfaces of the joints of the elbow complex 3. Describing the motions available at the joints of the elbow complex 4. Identifying the major ligaments associated with joints of the elbow complex 5. Naming the origin, insertion, action and nerve supply of the major muscles of the elbow complex 6. Describing the procedure and alignment for measuring ROM of the elbow complex movements 7. Describing the procedure and grading for manual muscle testing of the major muscle groups of the elbow complex 8. Describing the purpose and procedures of tests that pertain to the anatomy and pathological conditions of the elbow region 9. Demonstrating manual muscle tests for the elbow region 10. Demonstrating the range of motions of specific muscles/joints for the elbow region 11. Demonstrating special tests utilized for the elbow region	
Competency 7: The student will have an understanding of the Wrist and Hand by:	
1. Listing the two compound joints that make up the wrist complex and describe their articulation surfaces 2. Describing the motions available at the wrist complex	

3. Identifying the structural components of the joints that make up the fingers and thumb 4. Describing the motions available at those joints 5. Naming the origin, insertion, action and nerve supply of the major muscles of the wrist and fingers 6. Identifying the major ligaments associated with joints of the wrist, fingers and thumbs 7. Differentiating between the extrinsic and intrinsic muscles of the hand 8. Defining prehension 9. Describing the procedure and alignment for measuring ROM of the wrist and fingers 10. Describing the procedure and grading for manual muscle testing of the major muscle groups of the wrist and fingers 11. Describing the purpose and procedures of tests that pertain to the anatomy and pathological conditions of the wrist and fingers 12. Demonstrating manual muscle tests for the wrist and hand region 13. Demonstrating the range of motions of specific muscles/joints for the wrist and hand region 14. Demonstrating special tests utilized for the wrist and hand region	
Competency 8: The student will have an understanding of Posture by:	
1. Defining posture 2. Defining the center of gravity and base of support in normal posture 3. Describing the normal curvatures of the erect spine 4. Recognizing postural deviations with the use of plumb – line analysis 5. Recognizing high/low shoulder and hips 6. Defining apparent and true leg length discrepancies 7. Describing commonly found deviations associated with posture	

8. Defining and giving examples of scoliosis 9. Assessing appropriate posture on an individual 10. Identifying deviations in posture 11. Demonstrating procedures of strengthening exercises associated with correctable posture deviations	
Competency 9: The student will have an understanding of Gait by:	
1. Describing a normal gait pattern 2. Defining the phases of gait and types of muscle contractions occurring at each joint 3. Stating minimal joint motions needed in lower extremities for normal gait 4. Identifying major gait deviations and describing the most probable cause 5. Discussing possible therapeutic measures in correction of gait deviation 6. Assessing appropriate gait on an individual 7. Identifying deviations in the gait 8. Demonstrating procedures of strengthening exercises associated with correctable posture deviations	

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