Minnesota State University Moorhead

EXS 320: Anatomical Kinesiology

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

A study of the applied human anatomy with a focus on the musculoskeletal systems. The student will learn basic skeletal structure, make-up and functional capabilities at the various joints, the role of the musculature in human movement and apply these concepts to real life situations.

B. COURSE EFFECTIVE DATES: 02/03/2022 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Anatomical terms, position, planes of motion
2. Joint movement
3. Skeletal system
   -axial and appendicular skeleton
   -bone markings and features
   -types of bones
   -bone growth
4. Muscles
   -muscle tissue
   -contraction
   -fibers
   -muscle action
   -joints and types
   -exercise and stretching

D. LEARNING OUTCOMES (General)

1. Define anatomic terms and definitions.
2. Analyze joint movements and the muscles involved in sports skill movements.
3. Classify muscle tissue.
4. Classify or identify the types of bones.
5. Complete a case study that reflects application of anatomical kinesiology.
6. Define anatomical position and planes of motion.
7. Demonstrate appropriate stretching and strengthening exercises for the various muscles.
8. Describe the difference between the axial and appendicular skeleton.
9. Discuss and identify bone markings and features.
10. Discuss bone ossification, closure and trauma.
11. Discuss flexibility and instability of various joints.
12. Discuss functions of muscles in the human body.
13. Discuss functions of the skeletal system.
14. Discuss intracartilaginous and intramemebranous growth of bones.
15. Discuss the different roles a muscle may play (e.g., agonist, antagonist, prime mover, stabilizer, etc.).
16. Discuss the function and structural classification of joints.
17. Discuss the neuromuscular concepts as they relate to muscle action.
18. Identify and describe the different types of muscle contraction.
19. Identify and give examples of the arrangement of muscle fibers.
20. Identify bones and bony landmarks of the skeleton.
21. Identify bones, joints, ligaments and movements of the shoulder joint and shoulder girdle.
22. Identify bones, ligaments, and movements of the spinal column and pelvis.
23. Identify bones, ligaments, fundamental movements and muscles of the hip and thigh.
24. Identify bones, ligaments, menisci of the knee, in addition to the movements and muscles of the knee and lower leg.
25. Identify bones, ligaments, movements and muscles of the lower leg, ankle and foot.
26. Identify intrinsic and extrinsic muscle of the hand and thumb.
27. Identify proximal and distal attachment of the muscles of the anterior, posterior, medial and lateral hip and thigh.
28. Identify proximal and distal attachments of anterior and posterior muscles of the shoulder girdle.
29. Identify proximal and distal attachments of forearm flexors and extensors.
30. Identify proximal and distal attachments of the anterior and posterior muscles of the elbow.
31. Identify proximal and distal attachments of the anterior and posterior muscles of the knee.
32. Identify proximal and distal attachments of the anterior, superior, posterior, and inferior muscles of the shoulder joint.
33. Identify proximal and distal attachments of the extrinsic muscles of the lower leg compartments (anterior, posterior - superficial and deep, and lateral).
34. Identify proximal and distal attachments of the forearm.
35. Identify proximal and distal attachments of the muscles of the spinal column and pelvis.
36. Identify proximal and distal attachments of the rotator cuff muscles.
37. Identify scoliosis, lordosis, kyphosis and forward head posture.
38. Identify structures of a synovial joint.
39. Identify the bones, joints, ligaments and movements of the elbow and forearm.
40. Identify the bones, joints, ligaments and movements of the wrist and hand.
41. Identify the bones, joints, ligaments, movements and muscles of the thorax.

42. Identify the movements possible at the various joints.
43. Identify the types and structures of bones.
44. Illustrate and identify the components of the brachial plexus.
45. Illustrate exercises for muscles of the body that will isolate each functional muscle group. Identify and palpate the superficial muscles of the body.
46. List and describe the different arrangements of muscle fibers.
47. List and describe the types of joints, movements and planes of motion.
48. Palpate bony landmarks, soft tissue and other structures.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted