

Course Number and Title: BIO 123 Clinical Functional Anatomy

Campus Location:

Georgetown, Wilmington

Effective Date:

2021-51

Prerequisite:

BIO 121, SSC 100 or concurrent

Co-Requisites:

None

Course Credits and Hours:

3.00 credits

2.00 lecture hours/week

2.00 lab hours/week

Course Description:

This course reinforces the muscular, skeletal, and nervous systems of the human body by focusing on the structure and function associated with various physical therapy and occupational therapy techniques.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

None

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Use anatomic terminology to describe the human body. (CCC 1, 2, 6)
2. Explain skeletal components, musculature, innervation, articulations, and movements of the shoulder. (CCC 1, 2, 6)
3. Classify skeletal components, musculature, innervation, articulations, and movements of the arm. (CCC 1, 2, 6)
4. Recognize the musculature, innervation, articulations, and movements of the forearm and the hand. (CCC 1, 2, 6)
5. Recognize musculature, innervation, articulations, and movements of the buttock, thigh, and knee. (CCC 1, 2, 6)
6. Recognize the musculature, innervation, articulations, and movements of the leg and the foot. (CCC 1, 2, 6)
7. Distinguish musculature, innervation, articulations, and movements of the head, neck, thorax, abdomen, and back. (CCC 1, 2, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Use anatomic terminology to describe the human body.
 1. Describe the anatomic regions of the body.
 2. Describe the anatomical position using terms of direction and their relationship to each other.
 3. Name and describe the planes of the body.
 4. Demonstrate the various joint movements of the body.
 5. Name, describe, and give an example of the various types of joints in the body.
 6. Describe the muscular system and its components in terms of both microscopic and macroscopic anatomy and physiology.
 7. Describe the nervous system and its components in terms of both microscopic and macroscopic anatomy and physiology.
2. Explain skeletal components, musculature, innervation, articulations, and movements of the shoulder.
 1. Describe the movements of the upper arm.
 2. Name and describe the structures associated with the scapula and clavicle.
 3. Name the ligaments, and describe the type(s) of movement associated with the sternoclavicular, acromioclavicular, and shoulder joints.
 4. Describe the major cutaneous nerve supply of the shoulder.
 5. Draw, identify, and label all portions of the brachial plexus.
 6. Identify the origin, insertion, innervation, and action of the muscles of the axilla, pectoral region, and shoulder proper.
 7. Describe the shoulder joint in terms of glenoid labrum, subscapular bursa, rotator cuff, and all the ligaments that stabilize this joint.
 8. Describe the movements of the shoulder.
 9. Palpate and identify various anatomical structures of the shoulder.
3. Classify skeletal components, musculature, innervation, articulations, and movements of the arm.
 1. Describe the surface anatomy of the arm.

2. Identify the origin, insertion, innervation, and action of the anterior and posterior compartment muscles.
3. Identify the cubital fossa.
4. Label the major ligaments of the elbow joint.
5. Palpate and identify various anatomical structures of the arm.
4. Recognize the musculature, innervation, articulations, and movements of the forearm and the hand.
 1. Palpate and identify various anatomical structures of the forearm and hand.
 2. Describe the movements of the forearm wrist, thumb, and digits.
 3. Identify the origin, insertion, innervation, and action of the flexor and extensor forearm muscles.
 4. Distinguish between the associated ligaments of the proximal and distal radioulnar joints.
 5. Describe the movements of the radioulnar joints.
 6. Describe the formation, type of joints, and associated ligaments of the radiocarpal (wrist) joint.
 7. Locate the ligaments and joints of the hand.
 8. Identify the origin, insertion, innervation, and action of the thenar and hypothenar muscles.
 9. Palpate and identify various anatomical structures of the forearm and hand.
5. Recognize musculature, innervation, articulations, and movements of the buttock, thigh, and knee.
 1. Name and label the components of the natal cleft, hip bone, pelvis, thigh, leg, and foot.
 2. Name and describe the joints and associated ligaments of the pelvis.
 3. Name and recognize the associated ligaments of the hip joint.
 4. Describe and perform the movements of the hip joint.
 5. Identify major portions of the hip bones.
 6. Draw, identify, and label major portions of the lumbar plexus.
 7. Draw, identify, and label major portions of the sacral plexus.
 8. Name and describe the ligaments and cartilages of the knee joint.
 9. Describe the movements of the knee joint.
 10. Identify the origin, insertion, action, and innervation of the anterior thigh muscles.
 11. Identify the origin, insertion, innervation, and action of the hip flexor muscles.
 12. Identify the origin, insertion, innervation, and action of the adductor thigh muscles.
 13. Identify the origin, insertion, innervation, and action of the posterior thigh muscles.
 14. Identify major features of the femur.
 15. Identify the origin, insertion, innervation, and action of the buttock muscles and the deep external rotators of the hip.
 16. Palpate and identify various anatomical structures of buttocks, thigh, and knee.
6. Recognize the musculature, innervation, articulations, and movements of the leg and the foot.
 1. Name and locate the various retinacula of the leg.
 2. Describe the significance and boundaries of the popliteal fossa.
 3. Identify the origin, insertion innervation, and action of the muscles of the posterior compartment of the leg.
 4. Identify all portions of the tibia and fibula.
 5. Identify the origin, insertion, innervation, and action of the anterior leg muscles.
 6. Describe the formation and associated ligaments of the proximal and distal tibiofibular joints.
 7. Identify major portions of the tarsus, metatarsus, and phalanges.
 8. Describe the arches of the foot.
 9. Name and describe the various ligaments associated with the ankle joint.
 10. Name and describe the various ligaments associated with the intertarsal, tarsometatarsal, intermetatarsal, metatarsophalangeal, and interphalangeal joints.
 11. Describe the plantar aponeurosis.
 12. Identify the origin, insertion, innervation, and action of the intrinsic muscles of the foot.
 13. Palpate and identify various anatomical structures of the leg and foot.
7. Distinguish musculature, innervation, articulations, and movements of the head, neck, thorax, abdomen, and back.
 1. Identify the origin, insertion, innervation, and action of the muscles of the scalp and face, mastication, the hyoid group, and the neck.
 2. Describe the movements of the head and neck.
 3. Name and describe the various ligaments of the head and neck.
 4. Identify the origin, insertion, innervation, and action of the thoracic and abdominal muscles.
 5. List and describe the skeletal components of the vertebral column.
 6. Describe the common features of a typical vertebra.
 7. Recognize anatomical features of the cervical vertebrae with other typical vertebrae.
 8. Name and distinguish the joints and associated ligaments of the vertebral column.
 9. Identify the origin, insertion, innervation, and action of the muscles of the vertebral column.
 10. Describe the movements of the vertebral column.
 11. Palpate and identify various anatomical structures of neck, thorax, and abdomen and back.

Evaluation Criteria/Policies:

The grade will be determined using the Delaware Tech grading system:

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
0	-	69	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

None

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.