

Human Structure and Function in Occupational Therapy

Class

OTHA 1409

Study of the biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures. (WECM 51.0803)

Professional Behavior

Professional conduct and communication are considered to be essential skills in the healthcare professions and are required in the classroom, as well as, in any online course environment. Students are expected to be polite and respectful, whether talking face-to-face, e-mailing, chatting, or posting online. Behavior that is disruptive (i.e., excessive talking, rudeness to others, distracting behaviors such as leaving and re-entering class, cell phones ringing, etc.) will not be tolerated. Cell phones must be placed on silence during classes.

Course Learning Objectives

Identify human skeletal structure by bones, bony landmarks, and muscles; analyze human motion by muscle function, innervation, and kinetics related to functional outcomes; identify normal and abnormal movement, and evaluate joint range of motion and muscle strength. (WEC

Objectives

After completing this course, the student must be able to:

1. Identify human skeletal structure by bones.
2. Identify human skeletal structure by bony landmarks.
3. Identify human skeletal structure by muscles.
4. Analyze human motion by muscle function related to functional outcomes.
5. Analyze human motion by innervation related to functional outcomes.
6. Analyze human motion by kinetics related to functional outcomes.
7. Identify normal movement.
8. Identify abnormal movement.
9. Evaluate joint range of motion.
10. Evaluate muscle strength.

Tasks

1. Identify human skeletal structure by bones. (SCANS)
 1. Separate and identify upper and lower extremity.
 1. Analyze the characteristics of muscles in relation to movement.
2. Identify human skeletal structure by bony landmarks. (SCANS)
 1. Identify landmarks for reference and as use for axis in determining movement.
3. Identify human skeletal structure by muscles. (SCANS)
 1. Explain and identify origins and insertions of muscles involving upper and lower extremities as they relate to functional movement.
4. Analyze human motion by muscle function related to functional outcomes. (SCANS)
 1. Explain biomechanics for upper and lower extremity.
 1. Describe planes of movement, axis, and motion as they relate to functional occupational therapy.
5. Analyze human motion by innervation related to functional outcomes. (SCANS)
 1. Describe nerve characteristics and innervation of upper and lower extremity as it pertains to occupational therapy.
6. Analyze human motion by kinetics related to functional outcomes. (SCANS)
 1. Demonstrate biomechanics as it relates to functional and dysfunctional movements in the upper and lower extremities.
7. Identify normal movement. (SCANS)
 1. Analyze components that make up normal movement patterns.

8. Identify abnormal movement. (SCANS)
 1. Analyze components that make up abnormal movement patterns.
9. Evaluate joint range of motion. (SCANS)
 1. Explain and apply the categories of range of motion (A, A-A, PROM).
 1. Understand normal range parameters and values for upper extremity in all planes.
 2. Demonstrate technique for reinforcing comprehension of range of motion.
10. Evaluate muscle strength. (SCANS)
 1. Analyze categories of manual muscle testing as it relates to functional occupational therapy.
 1. Demonstrate techniques to reinforce learning of manual muscle testing.

Required Textbooks

Clinical Kinesiology and Anatomy, 6th ed., Lynn S. Lippert, **and** *Laboratory Manual for Clinical Kinesiology and Anatomy*, 4rd ed., Lynn S. Lippert and Mary A. Minor, ISBN: 978-0-8036-2686-7 (Savings Package)

Smart Body (free online interactive website)

<http://www.getbodysmart.com/index.htm>

Gale – The Interactive Body

Visible Body – Human Anatomy Atlas

Visible Body – Muscle Premium

Required Materials

Laptop computer or other materials for note taking; access to a computer and printer for completing assignments; email availability for completing course assignments and general course communication. Computers are available for students to use for educational purposes in the Academic Support Center located on the Weatherford College Campus in the lower level of the LART building.

Recommended Textbooks

Trail Guide to the Body: How to Locate Muscles, Bones, and More, 5th ed.,

Andrew R. Biel

Trail Guide to the Body – Student Handbook, 5th ed., Andrew R. Biel

Trail Guide to the Body Flashcards, 5th ed., Books of Discovery

Kinesiology Flashcards, 3rd ed., Lynn S. Lippert and Mary A. Minor

Evaluation Standards

Class Assignments

All assignments are due at the beginning of the class period unless otherwise stated and are expected to be original, independent work. Each assignment should be neat and legible, with correct spelling and grammar. Acceptance of late assignments due to an absence, are at the discretion of the instructor.

Laboratory

All students must be prepared for laboratory experiences at ALL times. Laboratory dress code will vary depending on course content, (ie. palpation lab vs. transfer training). See syllabi for specific dress code requirements. When in doubt, consult the course instructor ahead of time.

Students are expected to maintain professional behaviors at all times during laboratory activities. Students will be instructed in the use of all equipment and supplies. Misuse or abuse of any equipment or supplies will not be tolerated and could result in dismissal from the program.

Lab Activities/Participation

Students are expected to participate in all lab activities. Lab participation includes punctual attendance, attending to instruction, engaging with peers, active communication, professional behavior, participating by completing all lab activities individually or within a group setting as assigned and preparedness for class. It is also expected that all students are in attendance in lab.

Quizzes/Tests

All of your quizzes and tests will be completed online through Canvas. Each quiz and test will be timed.

Make-Up Work/Exams

Make-up work/exams will be required for absences in order to ensure that students acquire information and skills presented during their absence. Students will be responsible for contacting their instructor(s) about missed assignments and/or exams. All assignments and/or exams are due upon the student's return to class. **Make-up work, however, is at the discretion of the instructor.**

Exam Review

Learning theorists have proven that students (and clients) retain and learn more when given immediate feedback regarding performance. Faculty members will assign high priority to the timely return of assignments, quizzes, and exams. Faculty may review exams with students and address all questions relative to the exam such that the entire class may benefit. Students may be required to put specific concerns about exams and grading in writing and make an appointment with the faculty member for further discussion.

Grade Compilation

Lab Activities/Participation	15%
Final Exam	35%
Quizzes	30%
Lab Practicums	20%
Total 100%	

Grading Scale

A	90-100%
B	80-89%
C	75-79%
F	Less than 75%

Grade Reporting

Students who are not passing at midterm will be notified electronically via

"Campus Connect". The following percentage system for letter grades will be used for all grade reporting. Specific grading criteria will be explained in each course syllabus at the beginning of each semester.

Student Communications

Utilize department Form to formally communicate any concerns and/or suggestions. Information communication is available during class and office hours as well as additional hours as indicated by instructor.

Absences

1. Attendance is essential for the attainment of course objectives. **Students are allowed no more than three absences per course, per semester.** Students exceeding the three absences will be dropped from the course(s) and will not be allowed to continue in fieldwork courses. Fieldwork failures/withdrawals are addressed in the Fieldwork Handbook. Students will be allowed to continue in the remaining didactic courses, but will not be able to continue on to the next semester.
2. Late arrivals and early departures are not allowed in class, lab, or fieldwork. This behavior can cause students to be unsuccessful in the program and could lead to dismissal from the program. If a student is tardy to class three times, the student will be charged with an absence.
3. If a student is dropped from the program for absences or for academic reasons, he/she may reapply the following year. (See Returning Students section)

Instructional Methods

Course material will be presented in lecture/demonstration/lab format, with performance of specific techniques in the laboratory following the lecture. Guest lecturers and field trips are incorporated to enhance instruction. A variety of audio-visual materials will be used, including videos and PowerPoint presentations. All OTA course materials (syllabus, course schedule, reading assignments, handouts, and etc.) will be provided; some via the Canvas platform, and handouts will be in MS Word or PDF format. Students will need to access Canvas in order to obtain necessary course materials.

Disabilities

ADA Statement:

Any student with a documented disability (e.g. learning, psychiatric, vision, hearing, etc.) may contact the Office on the Weatherford College Weatherford Campus to request reasonable accommodations. *Phone:* 817-598-6350
Office Location: Office Number 118 in the Student Services Building, upper floor. *Physical Address:* Weatherford College 225 College Park Drive Weatherford, TX.

Academic Integrity

Academic Integrity is fundamental to the educational mission of Weatherford College, and the College expects its students to maintain high standards of personal and scholarly conduct. Academic dishonesty of any kind will not be tolerated. Academic dishonesty includes, but is not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials including unauthorized use of Generative AI. Departments may adopt discipline specific guidelines on Generative AI usage approved by the instructional dean. Any student who is demonstrated to have engaged in any of these activities will be subject to immediate disciplinary action in accordance with institutional procedures.

SCANS

The Secretary's Commission on Achieving Necessary Skills (SCANS) identified Foundation Skills in the areas of Basic Skills, Thinking Skills, and Personal Qualities, and Workplace Competencies in the areas of Resources, Information, Interpersonal, Systems, and Technology. This course is part of a program in which each of these Skills and Competencies are integrated. The specific SCANS Competencies that are recognized throughout this course are noted in the *Tasks* section of this syllabus; and the *Scans Competencies* chart is the last page of this syllabus.