



Technical College of the Lowcountry
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BIO 238
Musculoskeletal System Anatomy
Spring 2013

Course Description

BIO 238 Musculoskeletal System Anatomy

Lec. 2 Lab. 1 (Clock Hours 30 lecture; 45 lab)

This course is a study of the muscular and skeletal systems with laboratory exercises on the bones, bone markings, and the muscles addressing their origin, insertion, innervations, and action.

Prerequisites: MTH 120, MTH 121, BIO 112

Corequisites: MTH 122, MTH 123, MTH 126

Course Focus

The course focus is on Musculoskeletal System Anatomy

Text and References

Biel, A. Trail Guide to the Body, 4th ed. Boulder, CO. Books of Discovery, 2010.

Biel, A. Trail Guide to the Body Student Handbook. 4th ed. Boulder, CO. Books of Discovery, 2010

Clay, A. and Pounds, D. Basic Clinical Massage Therapy, 2nd ed. Baltimore, MD: Lippincott Williams & Wilkins

Salvo, SG. Massage Therapy Principles and Practice, 3rd ed. St. Louis, MO: Saunders/Elsevier, 2007.

Course Goals

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives. (*designates a CRUCIAL goal)

1. build clay skeletal muscle models
2. define anatomical terms
3. define kinesiology terms
4. exhibit professional behaviors*

5. pronounce anatomical terms
6. use anatomical terminology
7. visualize anatomical structures*
8. describe lever systems
9. describe muscle fiber directions*
10. distinguish various soft tissue structures*
11. dissect animal model facial layers
12. distinguish muscle contraction types
13. explain muscle contraction
14. classify joint types
15. demonstrate various joint motions
16. describe vertebral column joint functions
17. distinguish spinal curvatures
18. label intervertebral joint structures
19. label synovial joint structures
20. label vertebral column joints
21. palpate bony landmarks
22. state joint structure functions
23. demonstrate specific muscle contractions
24. distinguish muscle locations
25. label anatomical drawings
26. label facial layers
27. palpate skeletal muscles
28. state muscle attachment sites
29. state specified skeletal muscle actions*
30. state specified skeletal muscle innervations
31. draw peripheral nerve pathways
32. locate superficial peripheral nerves
33. draw circulatory pathways
34. identify endangerment areas*
35. locate lymph nodes
36. palpate selected arterial pulses
37. analyze a simple multi-joint movement
38. describe scapulohumeral rhythm
39. list rotator cuff muscles
40. list shoulder complex joints
41. present a movement study

Student Contributions

Classes are designed to employ a variety of teaching techniques. In order to maximize learning, required readings and Web enhanced sections should be done prior to class. If a student is falling behind in clinical performance and/or academic achievement, it is imperative to seek immediate assistance from the instructor.

Course Evaluation

4 quizzes (25 points each)	100 points
Mid-term exam	100 points
Application project	100 points
Homework Assignments	100 points
Completion of lab exercises	200 points
Final exam	200 points
Class participation and professional behaviors	<u>200 points</u>
Total	1000 points

Course Schedule

BIO 238 meets two times per week (15 weeks) for a 2 hour lecture session and a 3 hour lab session

Lecture: 2:30 pm - 4:30 pm (some lectures will be online) W Lab: 2:30 pm - 5:30 pm T

Course website: <http://elearning.tcl.edu> www.tcl.edu

SCHEDULE

Date	Concept Area: Lab	Concept Area: Lecture	Assignments
1/8-1/9	<ul style="list-style-type: none"> • Lab Overview • Joint Movements • Introduction to Lab Tools • Introduction to Muscle Building 	<ul style="list-style-type: none"> • Course Overview • Introduction to Musculoskeletal Anatomy • Muscle Function 	Biel Introduction & Chapter 1 Salvo Chapter 13 Matching I & II Clay Chapter 1
1/15-1/16	<ul style="list-style-type: none"> • View: <i>Promenades sous la Peau</i> • Analyze and Discuss Fascia • Review Evaluation Sheets for Muscle Building • Prepare Head, Neck and Face Origins and Insertions 	<ul style="list-style-type: none"> • Soft Tissue Anatomy • Fascia • Bones of the Skull 	Biel Introduction & Chapter 1 Biel Handbook, pp.1-24 Clay Chapter 2
1/22- 1/23	<ul style="list-style-type: none"> • Head, Neck and Face Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Muscles of Head, Neck, Face <p>(on-line lesson)</p> <p>Quiz 1</p>	Biel Chapter 5 Biel Handbook, pp. 119-142 Clay Chapter 3
1/29-1/30	<ul style="list-style-type: none"> • Spine and Thorax Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Bones & Joints: Spine & Thorax 	Biel Chapter 4 Biel Handbook, pp. 84-118 Clay Chapter 6
2/5-2/6	<ul style="list-style-type: none"> • Spine and Thorax Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Spine and Thorax Muscles 	Biel Chapter 4 Clay Chapter 7
2/12-2/13	<ul style="list-style-type: none"> • Shoulder and Arm Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Bones & Joints: Shoulder & Arm • Shoulder & Arm Muscles <p>Quiz 2</p>	Biel Chapter 2 Biel Handbook, pp. 25-50 Clay Chapter 4
2/19-2/20	<ul style="list-style-type: none"> • Shoulder and Arm Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Muscles of the Shoulder and Arm <p>(on-line lesson)</p>	Biel Chapter 2
2/26-2/27	<ul style="list-style-type: none"> • Forearm and Hand Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Bones & Joints: Forearm & Hand • Forearm & Hand Muscles • Nerves and Vessels 	Biel Chapter 3 Biel Handbook, pp. 51-83 Clay Chapter 5
Holiday	<i>March 5 -9 Spring Break</i>		

3/12-3/13	<ul style="list-style-type: none"> • Pelvis and Thigh Muscle Building • Palpation and Application 	Mid-Term Exam: Salvo Ch. 13; Biel Ch. 1-5	Biel Chapter 6 Biel Handbook, pp. 143-178 Clay Chapter 8
3/19-3/20	<ul style="list-style-type: none"> • Pelvis and Thigh Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Bone & Joints: Pelvis and Thigh • Pelvis and Thigh Muscles 	Biel Chapter 6
3/26-3/27	<ul style="list-style-type: none"> • Pelvis and Thigh Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Pelvis and Thigh Muscles (on-line session) 	Biel Chapter 6 Clay Chapter 9
4/2-4/3	<ul style="list-style-type: none"> • Pelvis and Thigh Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Nerves & Vessels of the Pelvis & Thigh • Knee joint <p style="text-align: center;">Quiz 3</p>	Biel Chapter 6
4/9-4/10	<ul style="list-style-type: none"> • Leg and Foot Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Bones & Joints: Leg & Foot • Arches of the foot 	Biel Chapter 7 Biel Handbook, pp.179-208 Clay Chapter 10
4/16-4/17	<ul style="list-style-type: none"> • Leg and Foot Muscle Building • Palpation and Application 	<ul style="list-style-type: none"> • Muscles of the Leg and Foot Identification and Palpation <p style="text-align: center;">Quiz 4</p>	Biel Chapter 7
4/23-4/24	<ul style="list-style-type: none"> • Completion of Lab Exercises • Submission of Muscle Models 	<ul style="list-style-type: none"> • Nerves and Vessels of the Lower Extremity 	Application Project due 4/23/10
5/1		Comprehensive Final Exam	

ADA STATEMENT

The Technical College of the Lowcountry provides access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation, contact the counselor for students with disabilities at (843) 525-8228 during the first ten business days of the academic term.

ATTENDANCE

The College's statement of policy indicates that students must attend ninety percent of total class hours or they will be in violation of the attendance policy.

1. Students not physically attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
2. Students taking an online/internet class must sign in **and** communicate with the instructor within the first ten calendar days from the start of the semester to indicate attendance in the class. Students not attending class during the first ten calendar days from the start of the semester must be dropped from the class for NOT ATTENDING.
3. Reinstatement requires the signature of the division dean.

- a. In the event it becomes necessary for a student to withdraw from the course **OR if a student stops attending class, it is the student's responsibility to initiate and complete the necessary paperwork.** Withdrawing from class may have consequences associated with financial aid and time to completion.
 - b. When a student exceeds the allowed absences, the student is in violation of the attendance policy. The instructor **MUST** withdrawal the student with a grade of "W", "WP", or "WF" depending on the date the student exceeded the allowed absences and the student's progress up to the last date of attendance
or
 - c. under extenuating circumstances and at the discretion of the faculty member teaching the class, allow the student to continue in the class and make-up the work. This exception must be documented at the time the allowed absences are exceeded.
 - d. Absences are counted from the first day of class. There are no "excused" absences. All absences are counted, regardless of the reason for the absence.
4. A student must take the final exam or be excused from the final exam in order to earn a non-withdrawal grade.
 5. Students are expected to be in class *on time*. Arrival to class after the scheduled start time or leaving class prior to dismissal counts as a tardy. Three tardies and/or early departures are considered as one absence unless stated otherwise.
 6. It is the student's responsibility to sign the roll/verify attendance with instructor upon entering the classroom. Failure to sign the roll/verify attendance results in a recorded absence. In the event of tardiness, it is the student's responsibility to insure that attendance is marked. **The student is responsible** for all material/ announcements presented, whether present or absent.
 7. Continuity of classroom and laboratory (which includes clinical experiences) is essential to the student's progress in providing safe and competent patient care. Students are expected to use appropriate judgment for participating in clinical activities. To evaluate the student's knowledge and skills, it is necessary for the student to be present for all clinical experiences.
 8. If absence does occur, the designated clinical site, in addition to the Division of Health Sciences Administrative Assistant, must be notified by telephone no later than 30 minutes prior to the start of the clinical experience. The Division of Health Sciences telephone number is 843-525-8267.

A copy of TCL's STATEMENT OF POLICY NUMBER: 3-1-307 CLASS ATTENDANCE (WITHDRAWAL) is on file in the Division Office and in the Learning Resources Center.

HAZARDOUS WEATHER

In case weather conditions are so severe that operation of the College may clearly pose a hardship on students and staff traveling to the College, notification of closing will be made through the following radio and television stations: WYKZ 98.7, WGCO 98.3, WGZO 103.1, WFXH 106.1, WWVV 106.9, WLOW 107.9, WGZR 104.9, WFXH 1130 AM, WLVA 101.1, WSOK

1230 AM, WAEV 97.3, WTOC TV, WTGS TV, WJWJ TV, and WSAV TV. Students, faculty and staff are highly encouraged to opt in to the Emergency Text Message Alert System.
www.tcl.edu/textalert.asp

ACADEMIC MISCONDUCT

There is no tolerance at TCL for academic dishonesty and misconduct. The College expects all students to conduct themselves with dignity and to maintain high standards of responsible citizenship. It is the student's responsibility to address any questions regarding what might constitute academic misconduct to the course instructor for further clarification.

The College adheres to the Student Code for the South Carolina Technical College System. Copies of the Student Code and Grievance Procedure are provided in the *TCL Student Handbook*, the Division Office, and the Learning Resources Center. Health care professionals hold the public trust. Academic misconduct by health science students, calls that trust into question and academic integrity is expected. It is a fundamental requirement that any work presented by students will be their own. Examples of academic misconduct include (but are not limited to):

1. copying the work of another student or allowing another student to copy working papers, printed output, electronic files, quizzes, tests, or assignments.
2. completing the work of another student or allowing another student to complete or contribute to working papers, printed output, electronic files, quizzes, tests, or assignments.
3. viewing another student's computer screen during a quiz or examinations.
4. talking or communicating with another student during a test.
5. violating procedures prescribed by the instructor to protect the integrity of a quiz, test, or assignment.
6. plagiarism in any form, including, but not limited to: copying/pasting from a website, textbook, previously submitted student work, or any instructor-prepared class material; obvious violation of any copyright-protected materials.
7. knowingly aiding a person involved in academic misconduct.
8. providing false information to staff and/or faculty.
9. entering an office unaccompanied by faculty or staff.
10. misuse of electronic devices.

GRADING POLICY Grading scale

90% - 100% A	W withdraw
82% - 89% B	WP withdraw with passing grade
75% - 81% C	WF withdraw with failing grade
70% - 74% D	I Incomplete
Below 70% F	

Grading Methodology. The final grade must be 75.000 or more in order to pass the course and progress in the program. Students absent from an examination or presentation will receive a "0" grade for the examination unless other arrangements are made with the individual

instructor prior to the examination or presentation day or on the examination or presentation day before the test/presentation is scheduled to be given. It is the responsibility of the student to contact the appropriate instructor to arrange to make up the examination. Arrangements may be completed by telephone. If the instructor is not available, a message should be left on the instructor's voice mail AND with another member of the faculty or administrative assistant. The instructor will decide the time and method of make-up examinations on an individual basis. Messages sent by other students are unacceptable. The student is responsible for notifying the instructor of the reason for the absence. Grades are posted on Blackboard within one week of administration of tests and examinations.

INSTRUCTORS:	Cindy Buchanan, PT, PhD	Denise Van Nostran, LMT
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