



## MUSCULOSKELETAL ANATOMY SYSTEM

Date 12/01/11

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**COURSE NUMBER:** BIO 238

**PREREQUISITE(S):** BIO 110/112

**CO-REQUISITE(S):** None

**COURSE DESCRIPTIONS** Advanced course for massage therapy students concentrating on muscles: Their origins, insertions, and actions.

**TEXTBOOK(S):** Biology of Humans: Concepts, Applications and Issues (4th Edition) (The Human Biology Place Series) by Judith Goodenough / Betty A. McGuire / Robert A. Wallace  
**ISBN-10:** 0321524179

An Illustrated Atlas of the Skeletal Muscles, Second Edition by Bradley S. Bowden and Joan M. Bowden  
**ISBN-13:** 9780895826701

**REFERENCE(S):** None

**OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:** None

**METHOD OF INSTRUCTION:** Lecture, discussion, laboratory exercises, demonstrations, audio-visual materials, and case studies will teach concepts.

**GRADING SYSTEM:**

93	-	100	=	A
85	-	92	=	B
77	-	84	=	C
70	-	76	=	D
Below	-	70	=	F

<b><u>GRADE</u></b>	4 Laboratory Tests	=	40%
<b><u>CALCULATION</u></b>	4 Lecture Tests	=	30%
<b><u>METHOD:</u></b>	Laboratory Notebook	=	15%
	Final Comprehensive Lab	=	<u>15%</u>
		=	100%

**ATTENDANCE** See Student Handbook pages 77-80  
**POLICY:** The withdrawal date for Fall Semester will be 11/1/11.

**CLASSROOM** **ACADEMIC DISHONESTY:** See Student Handbook page 98  
**CONDUCT:** **Cell Phone:** See Student Handbook pages. 76-77

**CLASS/LAB** Utilize bamboo pointer when studying the models.  
**PROCEDURES:**

**ACCOMMODATIONS:** Students who need special accommodations in this class because of a documented disability should notify Student Disability Services by calling (864) 592-4818, toll-free 1-800-922-3679; via email through the SCC web site at [www.sccsc.edu/resources/disabilities](http://www.sccsc.edu/resources/disabilities); or by visiting the office located in the East Building Room 30-B on the SCC Central campus. Contacting Student Disability Services early in the semester gives the College an opportunity to provide necessary support services and appropriate accommodations.

**COURSE OUTCOMES  
& OBJECTIVES:**

**Upon satisfactory completion of this course, the student will be able to:**

- I. Locate and name the 206 bones of the human skeleton
  - A. Describe the functions of the skeletal system
  - B. Name and explain the 3 types of skeletal articulations
  - C. Name and identify the 2 types of bone tissue
  - D. Name and identify the 2 portions of bone
  - E. Name and identify the 2 mechanisms of making bone
  - F. Name and explain bone repair
  - G. Name and explain the 3 hormones involved in calcium and phosphate ion uptake and deposition in the body
  
- II. Locate and name a minimum of 80 skeletal muscles
  - A. Describe the functions of the skeletal muscle system
  - B. Name and describe the shapes of the muscle fascicles
  - C. Name the origins of the muscles
  - D. Name the insertions of the muscles
  - E. Name the action and/or function of the muscles
  - F. Identify specific bone pathology
  
- III. Be able to describe the physiology of muscle contraction
  - A. Compare and contrast isotonic and isometric muscle contraction
  - B. Be able to explain the sliding filament theory of muscle contraction
  
  - C. List and explain the 3 skeletal fiber types
  - D. Be able to explain muscle conditioning and fatigue
  - E. Identify specific muscle pathology
  
- IV. Be able to describe and identify the innervation of skeletal muscle
  - A. Be able to explain and identify the neuromuscular junction (NMJ)
  - B. Name and explain the various parts of the neuron
  - C. Be able to explain learned and complex motor pathways