

## **COURSE OUTLINE**

### **Mechanics of Movement**

#### **Course Description**

MT 246. Mechanics of Movement. 3 hours credit. Prerequisites: MT 240 and MT 243 with a C or better. This course will enable the student to identify basic biomechanic principles through an in-depth study of the structure and function of the musculoskeletal system as it relates to movement, posture, health, and massage. The student will identify and palpate major muscles, locating origins and insertions while demonstrating actions and applying the concepts to his/her massage practice.

#### **Course Relevance**

Massage Therapists directly interact with the musculoskeletal system more than with any other system of the body. Through the anatomy of the musculoskeletal system we are able to influence physiology of the whole body, supporting the maintenance of homeostasis. Through an understanding of the design of movement, the student will learn the function of movement.

#### **Required Materials**

Fritz, S., Maison Paholsky, K., Grosenbach, M. (1999). *Mosby's basic science for soft tissue and movement therapies*. St. Louis, MO: Mosby, Inc.

#### **Supplemental Materials**

Biel, A. (2005). *Trail guide to the body: How to locate muscles bones and more* (3<sup>rd</sup> ed.). Boulder, CO: Books of Discovery.

#### **Learning Outcomes**

The intention is for the student to be able to

1. Explain the basic principles of biomechanics
2. Apply the concepts of movement to massage therapy
3. Identify and palpate various muscles
4. Apply the concepts of structure and function of movement to his/her related practice

#### **Primary Learning PACT Skills that will be DEVELOPED and/or documented in this course**

Through the student's involvement in this course, he/she will develop his/her ability in the following primary PACT skill areas:

1. Problem Solving
  - Through the analysis of case studies, the student will develop problem solving skills.
2. Field-Related Technology

- Through various structural palpations the student will learn to assess for the purpose of treatment in his/her practice.

Secondary skills (developed but not documented):

Critical Thinking  
Health Management  
Speaking  
Writing

### **Major Summative Assessment Task(s)**

These learning outcomes and the primary Learning PACT skills will be demonstrated by

1. Analyzing, explaining, and demonstrating the process of palpating a structure to assess quality or condition of the muscle to determine treatment

### **Course Content**

- I. Themes – Key recurring concepts that run throughout this course:
  - A. Applying movement concepts to massage therapy
  - B. Directions and positions of structures
  - C. Identifying origin, insertion, function, and common trigger points of individual muscles
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
  - A. Identifying conditions that need to be referred to alternative health care providers
  - B. Understanding effective assessment, analysis, and decision making
  - C. Legal/ethical considerations of assessment
- III. Concepts – Key concepts that must be understood to address the issues:
  - A. Medical terms used to describe the positions of the body in relation to other body parts
  - B. Muscle structure and function
  - C. Explanation of the basic principles of biomechanics
- IV. Skills/Competencies – Actions that are essential to achieve the course outcomes:
  - A. Comprehension of course philosophies, principles and theories in relation to massage therapy
  - B. Application of course philosophies, principles and theories in relation to massage therapy
  - C. Communication
  - D. Assessment
  - E. Problem solving/decision making

### **Learning Units**

- I. Fundamentals
  - A. Explain the importance of understanding the relationship of the structure and function of the body as a whole
  - B. Identify the mechanisms of health and disease
  - C. Identify medical abbreviations used in health care and their meanings

- II. Systems of Control
  - A. Explain the influence of bodywork methods on the central nervous system.
  - B. Explain the way soft tissue and movement therapies support health in the peripheral nervous system
  
- III. The Body Moves
  - A. List the seven main functions of the skeletal system
  - B. Describe the proprioceptors and the four types of reflexes
  - C. Explain the basic principles of biomechanics
  - D. Identify and describe the three main biomechanical dysfunctional patterns
  - E. Assess biomechanical function for the regions of the body
    - 1. Spinal or vertebral movements
    - 2. Head/neck region
    - 3. Thoracic vertebral column region
    - 4. Lumbar vertebral column region
    - 5. Abdomen region
    - 6. Thorax region
    - 7. Shoulder region
    - 8. Elbow region
    - 9. Wrist and hand region
    - 10. Pelvic girdle and hip region
    - 11. Knee region
    - 12. Ankle and foot region

### **Learning Activities**

Independent and collaborative learning activities will be assigned to assist the student in achieving the intended learning outcomes. Examples of activities which contribute to the learning process include instructor lectures, audio-visual aids, group discussion, guest speakers, and skill practice.

### **Grade Determination**

Grade determinates may include the following: daily activity class participation, skill demonstration, assessment tasks, and other methods of evaluation employed at the discretion of the individual instructor. These methods may be used individually or in combination by all instructors. A minimum grade of C or higher must be achieved for passing in the Massage Therapy Program.