

COURSE OUTLINE **Body Systems and Disease I**

Course Description

MT 137. Body Systems and Disease I. 4 hours credit. This course will enable the student to apply basic principles of structure, function and disease to massage therapy and will include the following systems: integumentary, skeletal, muscular (part 1), cardiovascular and digestive. The students will also explore demographics, etiology, signs/symptoms and treatment options of common disorders.

Course Relevance

Massage therapy is a trusted and successful treatment for many physiological problems. Understanding how the structure and function of the body integrate together will enhance the student's knowledge of how various diseases affect specific functions. In addition, this course will enable the student to gain an understanding of the relationship between pathophysiological systems and applied therapeutic massage. This knowledge is essential for those wishing to pursue a career in massage therapy.

Required Materials

Premkumar, K. (2004). *The massage connection: Anatomy and physiology*. (2nd ed.). Baltimore, MD: Lippincott Williams & Wilkins.

Werner, R. (2002). *A massage therapist's guide to pathology* (2nd ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

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

Learning Outcomes

The intention is for the student to be able to:

1. Apply the concepts of anatomy and physiology to massage therapy in major systems of the body
2. Discuss the pathophysiology, etiology, sign/symptoms and treatments of common disorders in the major body systems and the resulting and possible contraindications

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.

Secondary skills (developed but not documented):

- Critical Thinking
- Health Management
- Computer Literacy
- Internet Use
- Writing

Major Summative Assessment Task(s)

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

1. A written analysis of a progressive case study involving a common disorder of a major body system. The student's paper should communicate his/her ability to explain the etiology and pathophysiology of the specific disorder as well as identify the contraindications to massage presented in the progressive case study.

Course Content

- I. Themes – Key recurring concepts that run throughout this course:
 - A. Applying anatomy concepts to massage therapy
 - B. Applying physiology concepts to massage therapy
 - C. Etiology of disease
 - D. Pathophysiology
 - E. Clinical manifestations
 - F. Medical treatments
 - G. Appropriate massage techniques
- II. Issues – Key areas of conflict that must be understood in order to achieve the intended outcome:
 - A. Identifying indications vs. contraindications to massage therapy
 - B. Identifying conditions that need to be referred to alternative health care providers
 - C. Legal/ethical considerations
- III. Concepts – Key concepts that must be understood to address the issues:
 - A. Anatomy and physiology
 - B. Inflammation/ healing
 - C. Infection
 - D. Growth and development theories
 - E. Pain
 - F. Contraindications
 - G. Therapeutic massage as health care management
- 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. Cells and tissues in the body
 - A. Describe the structure of a cell and the functions of each organelle
 - B. Classify tissue and describe the structure and function of each type
 - C. Identify locations where each tissue type may be found
 - D. Differentiate between skeletal, cardiac, and smooth muscle
 - E. Describe the effects of aging on tissue
 - F. Describe the possible effects of massage on tissue

- II. The integumentary system
 - A. List the functions of the integumentary system
 - B. Identify the layers of the skin and accessory structures
 - C. Identify the locations of superficial and deep fascia
 - D. Define inflammation and list the common causes
 - E. Describe the effects of hot and cold applications on the skin
 - F. Describe the effects of aging
 - G. Describe the possible effects of massage on the integumentary system
 - H. Pathophysiology of common skin disorders
 - I. Etiology of common skin disorders
 - J. Clinical manifestations of common skin disorders
 - K. Assessment and appropriate massage procedures
 - L. Current treatments and adjunct therapies

- III. The skeletal system
 - A. List the functions of the bone
 - B. Describe the role of calcium and how it is regulated
 - C. List the different types of bones and give examples of each
 - D. Label the bones
 - E. List the various joint types and classify the different joints of the body
 - F. Describe the possible effects of massage on the skeletal system and joints
 - G. Pathophysiology of common skeletal disorders
 - H. Etiology of common skeletal disorders
 - I. Assessment and appropriate massage procedures
 - J. Clinical manifestations of common skeletal disorders
 - K. Current treatments and adjunct therapies

- IV. The muscular system
 - A. List the functions of muscle tissue
 - B. Outline the steps involved in muscle contraction
 - C. Compare and contrast skeletal, cardiac, and smooth muscle tissue
 - D. Identify and give the origin, insertion, and actions of major muscles related to the axial skeleton
 - E. Identify and give the origin, insertion, and actions of major muscles related to the appendicular skeleton
 - F. Group the muscles according to the movements they produce in the shoulder, elbow, wrist, hip, knee, ankle joints, and spine

- G. Describe the effects of aging on the muscular system
 - H. Describe the effects of massage on the muscular system
 - I. Pathophysiology of common muscular disorders
 - J. Etiology of common muscular disorders
 - K. Assessment and appropriate massage procedures
 - L. Clinical manifestations of common muscular disorders
 - M. Current treatments and adjunct therapies
- V. The cardiovascular system
- A. Identify the composition of blood
 - B. Identify the typing systems
 - C. Define thrombosis and embolism
 - D. Label the components of the heart
 - E. Define stroke volume, cardiac output, venous return, blood pressure, systole, and diastole
 - F. Compare the structure and functions of the different types of blood vessels
 - G. Describe the cardiovascular changes that occur with aging
 - H. Describe the possible effects of massage on the cardiovascular system
 - I. Pathophysiology of common blood, vascular, and heart disorders
 - J. Etiology of common blood vascular, and heart disorders
 - K. Clinical manifestations of common blood, vascular, and heart disorders
 - L. Assessment and appropriate massage procedures
 - M. Current treatments and adjunct therapies
- VI. The digestive system
- A. List the organs of the digestive system and their functions
 - B. Describe the process by which the movement of food occurs
 - C. Describe metabolic rate
 - D. Describe age-related changes in the digestive tract
 - E. Identify the possible effects of massage on the gastrointestinal system
 - F. Pathophysiology of common digestive disorders
 - G. Etiology of common digestive disorders
 - H. Assessment and appropriate massage procedures
 - I. Clinical manifestations of common digestive disorders
 - J. Current treatments and adjunct therapies

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.