

COURSE OUTLINE **Body Systems and Disease II**

Course Description

MT 243. Body Systems and Disease II. 4 hours credit. Prerequisites: MT137 with a C or better. This course will enable the student to apply basic principles of structure, function and disease to massage therapy and will include the following systems: muscular (part 2), lymphatic, respiratory, endocrine, urinary, reproductive and nervous. The student 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.

2. Speaking

- Through a variety of group assignments, the student will develop speaking skills to apply in his/her practice.

Secondary skills (developed but not documented):

Health Management
Computer Literacy
Internet Use
Critical Thinking

Major Summative Assessment Task(s)

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

1. A presentation explaining the benefits and contraindications of massage therapy on a specific body system. The presentation will demonstrate the student's ability to communicate and educate his/her client.

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. The Nervous System

- A. Classify the neurons according to structure and function
- B. Explain how myelin sheaths are formed in the PNS and CNS
- C. Classify sense organs
- D. Describe the various types of pain: acute, chronic, visceral and referred
- E. Define a dermatome
- F. List the components of a reflex arc
- G. List the major regions of the brain and describe their functions
- H. List the motor, sensory, and association areas of the brain
- I. Explain the formation, circulation, and function of the cerebrospinal fluid
- J. Describe age-related changes in the nervous system
- K. Describe the benefits of massage on the nervous system
- L. Explain the role of massage on pain management
- M. Pathophysiology of common neurological disorders
- N. Etiology of common neurological disorders
- O. Clinical manifestations of common neurological disorders
- P. Assessment and appropriate massage procedures
- Q. Current treatments and adjunct therapies

II. The Endocrine System

- A. List the functions of the endocrine system
- B. Describe the chemical structure of hormones
- C. Explain the modes of action and regulation of hormone levels
- D. Identify positive and negative feedback mechanisms
- E. Identify the location of the endocrine glands
- F. Explain how the stress response is produced
- G. Describe the changes that occur in the endocrine glands with aging
- H. Explain the role of massage in stress
- I. Describe the effects of massage on the endocrine system
- J. Pathophysiology of common endocrine disorders
- K. Etiology of common endocrine disorders
- L. Clinical manifestations of common endocrine disorders
- M. Assessment and appropriate massage procedures
- N. Current treatments and adjunct therapies

III. The Reproductive System

- A. Identify organs and accessory structures of the male system
- B. Describe the nervous and hormonal mechanisms that regulate the male reproductive functions
- C. reproductive functions
- D. Identify organs and accessory structures of the female system
- E. Describe the physiologic changes that occur during menopause
- F. Describe age-related changes in the reproductive system
- G. Describe the possible effects of massage on the reproductive system

- H. Pathophysiology of common reproductive disorders
- I. Etiology of common reproductive disorders
- J. Clinical manifestations of common urinary disorders
- K. Assessment and appropriate massage procedures
- L. Current treatments and adjunct therapies

IV. The Lymphatic System

- A. Identify the components of lymph fluid
- B. List the functions of the lymph system
- C. Identify the major groups of lymph nodes and the regions they drain
- D. Describe the effects of massage on the lymphatic system
- E. Describe the specific massage techniques that are effective in reducing edema
- F. Define immunity
- G. Define autoimmune disease and list examples
- H. Describe changes that occur in the lymphatic system and immunity with aging
- I. Describe the effects of massage on immunity
- J. Pathophysiology of common lymphatic and immune system disorders
- K. Etiology of common lymphatic and immune system disorders
- L. Clinical manifestations of common lymphatic and immune system disorders
- M. Four types of hypersensitivity
- N. Acute and chronic inflammation
- O. Diagnostic and laboratory procedures
- P. Assessment and appropriate massage procedures
- Q. Current treatments and adjunct therapies

V. The Respiratory System

- A. List the functions of the respiratory system
- B. Identify the components of the respiratory tract and describe the function(s) of each
- C. Describe the physiological processes involved in the exchange of gases in external and internal respiration
- D. Describe the effects of exercise, aging, and smoking on the respiratory system
- E. Describe the effects of massage on the respiratory system
- F. Explain the role of postural drainage before and during massage
- G. Identify the special techniques used in association with postural drainage
- H. Pathophysiology of common respiratory disorders
- I. Etiology of common respiratory disorders
- J. Clinical manifestations of common respiratory disorders
- K. Assessment and appropriate massage procedures
- L. Current treatments and adjunct therapies

VI. The Urinary System

- A. Identify the anatomical components of the urinary system
- B. Describe organization of the kidneys, ureters, urinary bladder and urethra
- C. Explain the formation of urine

- D. Describe the effects of aging on the anatomical components of the urinary system
- E. Describe the effects of massage on the urinary system
- F. Pathophysiology of common urinary disorders
- G. Etiology of common urinary disorders
- H. Clinical manifestations of common urinary disorders
- I. Assessment and appropriate massage procedures
- J. Current treatments and adjunct therapies

VII. Miscellaneous conditions

- A. Benign and malignant cancer
- B. Characteristics of normal and malignant cells
- C. Effects of cancer on the body
- D. Role of chemotherapy, radiation therapy, nutrition and other drugs in the
- E. treatment of cancer
- F. Incidence and risk factors of cancers
- G. Assessment and appropriate massage procedures
- H. 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.