

**MACOMB COMMUNITY COLLEGE  
DIVISION OF ARTS AND SCIENCES**

**COURSE SYLLABUS**

- I. **DEPARTMENT/DISCIPLINE:** Health and Human Services/Respiratory Therapy
- II. **COURSE TITLE:** Cardiopulmonary Pathology
- III. **CATALOG DESCRIPTION:** This course is a detailed study of disease affecting the cardiovascular and pulmonary systems. The student will study the assessment process and the role of the RCP in developing and implementing therapist driven protocols. The anatomic alterations, etiology, clinical manifestations and patient care plan will be reviewed for each disease process. Spring semester only. Center Campus
- IV. **PREREQUISITES:** RSPT 1050, 1060, 1080, and 1090  
**COREQUISITES:** RSPT 1111, 1120, 1200, and 1210
- V. **COURSE NUMBER:** RSPT 1140
- VI. **SEMESTER CREDIT HOURS:** 3.0  
**CONTACT HOURS:** 3 hours/week
- VII. **EFFECTIVE TERM:** Winter 2007
- VIII. **STUDENT ACADEMIC OUTCOMES:** The student will be able to:
  - A. Describe the **assessment process** and the role of the Respiratory Care Practitioner in developing and implementing therapist driven protocols.
    - 1. Given the results of an arterial blood sample, interpret the acid base disturbance, degree of compensation, and level of oxygenation present.
    - 2. Given the results of a pulmonary function study, determine the type and severity of respiratory disorder present.
    - 3. Describe the physical assessment techniques used in the pulmonary assessment of a patient.
    - 4. List the five respiratory protocols and describe when each is used.
  - B. State the clinical **definition** of the disease and describe the etiology of each disorder.
    - 1. Given a disease of the pulmonary system, state a definition of the disease.
    - 2. Given a disease of the pulmonary system, state the etiology of the disease.
    - 3. Given a cardiovascular disease, state a definition of the disease.
    - 4. Given a cardiovascular disease, state the etiology of the disease.
    - 5. Given a disease of the neurological system, state a definition of the disease.
    - 6. Given a disease of the neurological system, state the etiology of the disease.

- C. Describe the ***anatomic alterations*** of the lungs caused by common respiratory disorders.
1. Given a disease of the pulmonary system, state the anatomic alteration associated with the disease.
  2. Given a cardiovascular disease, state the anatomic alteration associated with the disease.
  3. Given a disease of the neurological system, state the anatomic alteration associated with the disease.
- D. Describe the major ***pathophysiologic mechanisms*** activated throughout the respiratory system as a result of the anatomic alterations.
1. Given a disease of the pulmonary system, state the pathophysiologic alterations associated with the disease.
  2. Given a cardiovascular disease, state the pathophysiologic alterations associated with the disease.
  3. Given a disease of the neurological system, state the pathophysiologic alterations associated with the disease.
- E. Describe the common ***clinical manifestations*** that develop as a result of pulmonary and cardiovascular disease.
1. Given a disease of the pulmonary system, describe the clinical manifestations associated with the disease.
  2. Given a cardiovascular disease, describe the clinical manifestations associated with the disease.
  3. Given a disease of the neurological system, describe the clinical manifestations associated with the disease.
- F. Evaluate the assessment data & develop an appropriate ***treatment*** care plan for each disease process.
1. Given a disease of the pulmonary system, list the assessment data that should be performed to treat the disease.
  2. Given a disease of the pulmonary system, list components of the treatment plan used in the management of the disease.
  3. Given a cardiovascular disease, list the assessment data that should be performed to treat the disease.
  4. Given a cardiovascular disease, list components of the treatment plan used in the management of the disease.
  5. Given a disease of the neurological system, list the assessment data that should be performed to treat the disease.
  6. Given a disease of the neurological system, list components of the treatment plan used in the management of the disease.
- G. Describe the role of the RCP in disease prevention.
1. List interventions that Respiratory Care Practitioners can use to treat patients with pulmonary disorders.
  2. List interventions that Respiratory Care Practitioners can use to treat patients with cardiovascular disorders.
  3. List interventions that Respiratory Care Practitioners can use to treat patients with neurological disorders.

## IX. COURSE ASSESSMENT

- A. Comprehensive final exam in comparison to representative pre-course test.

## IX. COURSE CONTENT OUTLINE

- A. Introduction to Mechanical Ventilation
  - 1. Modes
  - 2. Elimination of PaCO<sub>2</sub>
  - 3. Improvement of Oxygenation
- B. Assessment Process
- C. Therapist Driven Protocols
- D. Chronic Obstructive Lung Diseases
  - 1. Asthma
  - 2. Emphysema
  - 3. Bronchieactasis
  - 4. Chronic Bronchitis
  - 5. Cystic Fibrosis
  - 6. Croup
  - 7. Epiglottitis
- E. Cardiovascular Diseases
  - 1. Myocardial Infarction
  - 2. Congestive Heart Failure
  - 3. Pulmonary Embolism
  - 4. Cerebral Vascular Accident
- F. Flail Chest
- G. Pneumothorax
- H. Neuromuscular Disease
- I. Sleep Disorder
- J. ARDS
- K. Atelectasis
- L. Cancer of the Lung
- M. Drowning
- N. Interstitial Lung Disease
- O. Smoke Inhalation
- P. Pneumonia
- Q. Lung Abscess
- R. Tuberculosis
- S. AIDS