

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

**ACADEMIC AFFAIRS**

Course Number: RSPC 411 Department: Respiratory Care

Course Title: Applied Clinical Science II Semester: Spring Year: 1999

**Objectives/Competencies**

<b>Course Objective</b>	<b>Competencies</b>
1.(Hemoptysis) The student should develop an understanding of hemoptysis.	1.Outline the various causes of hemoptysis and discuss their pathophysiology in relation to the structural anatomy and source of bleeding. 2.Develop an algorithm for the diagnosis and management of hemoptysis relative to its pathogenesis and illustrate with clinical examples.
2.(Noncardiac Chest Pain) The student should develop an understanding of noncardiac chest pain.	1.Explain the significance of chest pain and the need for diagnosis of its cause. 2.List the various organ systems that can be responsible for causing chest pain. 3.Describe the diseases of the respiratory, musculoskeletal, and gastrointestinal systems that cause chest pain and tell how to differentiate them. 4.Explain the cardiac causes of chest pain other than coronary artery disease and describe the evaluation of patients with these diseases. 5.List neuropsychiatric causes of chest pain.

Course Objective	Competencies
<p>3.(Obstructive Airway Disease) The student will be able to have an understanding of obstructive airway disease.</p> <p>4.(Respiratory Infections) The student should develop an understanding of respiratory infections.</p> <p>5.The student should develop an understanding of (Diseases of the Pulmonary Vasculature and O<sub>2</sub> Transport).</p>	<ol style="list-style-type: none"> <li>1.Recognize the major defensive mechanisms used by the host to remain free of respiratory tract infections.</li> <li>2.Recognize important pathogens in lower respiratory tract infections.</li> <li>3.Identify various risk factors for and clinical features of lower respiratory tract infections.</li> <li>4.Understand the principles of management for these infections.</li> </ol> <ol style="list-style-type: none"> <li>1.Understand the anatomy and physiology of the normal pulmonary circulation.</li> <li>2.Classify causes of pulmonary hypertension according to pathophysiology.</li> <li>3.Describe the clinical manifestations of increased pulmonary artery pressure.</li> <li>4.Identify important laboratory manifestations of disorders associated with pulmonary hypertension.</li> <li>5.Be familiar with the factors controlling fluid flux from the pulmonary capillary bed.</li> <li>6.Identify the role of the bronchial circulation in life threatening hemoptysis.</li> <li>7.Classify the pathophysiologic mechanisms of hypoxemia and identify diseases associated with each of these mechanisms.</li> <li>8.Understand the relationships among arterial PO<sub>2</sub>, oxygen</li> </ol>

Course Objective	Competencies
6.The student should develop an understanding of (Parenchymal Lung Disease).	content of arterial blood, and systemic oxygen delivery.  1.Understand the physiologic derangements that lead to parenchymal interstitial lung diseases. 2.Integrate the pathophysiology of parenchymal interstitial lung diseases to understand clinical disease presentations. 3.Understand the therapy and prognosis of interstitial lung disease.
7.The student should develop an understanding of (Occupational/Inhalational/Environmental Disease).	1.Identify the lung diseases caused by inhalation of foreign material from the environment or during the course of specific occupations. 2.Identify the lung diseases related to adverse environmental conditions such as near drowning and ascent to high altitudes (mountain sickness). 3.Understand the pathophysiology of pulmonary reactions to these insults. 4.Describe the clinical presentation and treatment of the various disorders
8.(Pleural Disease) The student will be able to have an understanding of pleural disease.	1.Review the anatomy of the pleural space. 2.Describe the physiology of the pleural space and how pleural fluid is formed. 3.Describe the mechanisms of the accumulation of pleural effusions and the differentiation of effusions into categories: exudative and transudative. 4.Discuss the differential diagnosis of pleural effusions. 5.Outline the treatment options for pleural effusions.

Course Objective	Competencies
<p>9.(Sleep Disorders) The student will be able to have an understanding of sleep disorders.</p>	<p>6.Illustrate the mechanisms and consequences of pneumothorax and pneumomediastinum.            7.Describe treatment options for pneumothorax and pneumomediastinum.</p> <p>1. Identify the stages of sleep.            2. Understand the physiology of "normal sleep."            3. Recognize the sleep disorders commonly encountered in general practice.            4. Recognize the hemodynamic changes during sleep apneas and their clinical sequelae.            5. Describe the pathophysiology of obstructive sleep apnea.            6. Be familiar with the workup of patients with obstructive sleep apnea.            7. Discuss the treatment options for obstructive sleep apnea.</p>
<p>10.(Lung under Stress) The student will be able to have an understanding of the lung under stress.</p>	<p>1. Recognize lung injury caused by common therapeutic drugs and substance abuse.            2. Identify the diverse pulmonary complications that occur after bone marrow and lung transplantation.            3. Understand the effects of operative procedures and anesthesia on lung function.</p>