

LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:

This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore <http://www.labette.edu/bookstore> for the required texts for this class.

COURSE NUMBER: RESP 102

COURSE TITLE: FUNDAMENTALS OF RESPIRATORY CARE II

SEMESTER CREDIT HOURS: 4

DEPARTMENT: Respiratory Therapy

DIVISION: Health Science

PREREQUISITES: RESP 101 Fundamentals of Respiratory Care I

COURSE DESCRIPTION:

This course will continue from FRC I in presenting equipment and therapeutics. A diagnostics component will be added. The student will learn about specialized oxygen devices, arterial blood puncture analysis and interpretation, plus pulmonary function testing. In addition emergency care, artificial airways, and the electrical conduction system of the heart will also be taught. There is a separate laboratory class that will include hands on competencies taught in this course.

COURSE OUTCOMES AND COMPETENCIES:

Students who successfully complete this course will be able to:

1. Students who successfully complete this class, when given arterial blood gas results, will be able to determine oxygenation status of a patient.

- Identify normal values for oxygenation parameters.
- Define hypoxemia.
- Quantify hypoxemia.
- Explain what is meant by saturation of hemoglobin

2. Students who successfully complete this class, when be given arterial blood gas results, will be able to determine acid-base status of a patient.

- Identify normal values for acid-base parameters.
- Define key terminology in acid-base balance.
- Understand the role of the lungs and kidneys in acid-base balance.
- Discuss the compensatory mechanisms for metabolic acid-base imbalances.
- Discuss the compensatory mechanisms for respiratory acid-base imbalances.

3. Students who successfully complete this class will be able to demonstrate an understanding of clinical applications of arterial blood gas results.

- Differentiate between SaO₂ and SpO₂.
- Identify problems that are respiratory in origin.
- Identify problems that are metabolic in origin.
- Based on arterial blood gas results, recognize the patient breathing due to hypoxic drive.
- Identify possible consequences of oxygen administration to the patient with hypoxic drive.
- Recommend respiratory care based on blood gas results.

4. Students who successfully complete this class will be able to demonstrate an understanding of the role of pulmonary function in managing the patient with pulmonary disease.

- Identify standards of measurements.
- List correct values for lung volume measurements for an adult male.
- List correct values for ventilatory parameters a normal adult.
- List correct values for pulmonary mechanics for a normal adult male.
- Identify and discuss how basic pulmonary function values are measured and recorded.
- Analyze and differentiate the relationship of measurements to one another.
- Interpret and evaluated the results of a pulmonary function test.
- Describe the different techniques used in performing a Pulmonary Function Test.
- Discuss Quality Control / Assurance procedures in general and specific to a Pulmonary Lab.

5. Students who successfully complete this class will be able to determine presence of cardiopulmonary disease through evaluation and collection of clinical data.

- Recognize common clinical signs of cardiopulmonary disease.
- Recommend diagnostic modalities to gather additional clinical data to determine presence of pulmonary disease.
- Analyze specific laboratory data to determine presence of cardiopulmonary disease.
- Collect and evaluate pertinent clinical information gathered through patient assessment.
- Identify and discuss the uses, hazards and maintenance of the following monitoring methods: arterial blood gas, pulmonary function.
- Differentiate between restrictive or obstructive pulmonary disease states.

6. Students who successfully complete this class will be able to determine appropriate management of the patient with cardiopulmonary disease requiring oxygen therapy.

- Determine need for oxygen therapy based on patient signs and symptoms.
- Identify respiratory problems and potential respiratory problems based on collected data.
- Identify common respiratory problems associated with a specific disease state.
- Identify and justify standard of care for specific disease states.
- Discuss indications, hazards, and equipment needed for oxygen therapy.
- Recognize commonly specialized oxygen delivery devices and their effects and uses.
- Identify the role of hyperbaric oxygen in patient care.

7. Students who successfully complete this class will be able to discuss how normal anatomy and physiology of the cardiac system affects the recording of the electrocardiogram.

- Identify normal cardiac anatomy.
- Trace pathway of electrical impulses through the conducting system of the heart.
- Describe normal electrical activity recorded by a normal ECG tracing.
- Identify the unipolar precordial leads and describe electrode placement, charge, and axis.
- Identify the 3 bipolar leads and describe electrode placement, charge, and axis.
- Identify the 3 unipolar limb leads and describe electrode placement, charge, and axis.

8. Students who successfully complete this class will recognize abnormalities in the electrocardiogram.

- Identify mechanisms of abnormal electrical impulse formation.
- Discuss sources of artifact in the ECG tracing.
- Identify normal components of an ECG tracing.
- Identify abnormalities in the components of ECG tracing and the significance.
- Calculate heart rate from an ECG tracing.

9. Students who successfully complete this class will be able to demonstrate an understanding of clinical applications of electrocardiograms.

- Identify abnormalities of an ECG and their causes.
- Discuss ventricular rhythms.
- Identify arrhythmias from a given ECG tracing.
- Discuss clinical significance and treatment of arrhythmias.

10. Students who successfully complete this course will be able to make decisions about and provide appropriate care for the patient in need of artificial airway.

- Recognize the indications, contraindications, and complications of securing a patent artificial airway.
- Describe the insertion and maintenance procedures of specific artificial airways.
- List and identify the equipment needed for tracheal intubation.
- Distinguish differences between nasotracheal and orotracheal intubation and recognize the indications and contraindications for both procedures.
- Recognize the indications, contraindications, and complications of extubation.