RSPT 51A: INTRODUCTION TO RESPIRATORY ANATOMY & PHYSIOLOGY

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2022
Units:	2
Hours:	2 lecture per week (24 total per quarter)
Prerequisite:	BIOL 40A, 40B and 40C; medical terminology course of 2 semester units or greater.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- State the structure of the upper and lower airways.
- Describe the alveolar capillary membrane and gas diffusion.

Description

Anatomy of the respiratory system, ventilation, diffusion of pulmonary gases, circulatory system, and oxygen transport. Intended for students in the Respiratory Therapy Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

1. State the structure of the upper airways.
2. State the structure of the lower airways.
3. Name and locate the bronchopulmonary segments.
4. Describe the mucus blanket.
5. Relate the action of the respiratory muscles to rib, thoracic movement and pleural pressures.
6. Describe the alveolar capillary membrane and gas diffusion.
7. Graph lung volumes and capacities.
8. Diagram the pulmonary, systemic, and bronchial circulation.
9. Locate and name the large arteries and veins in the adult.

Course Content

1. Upper airways
    a. Oropharynx
    b. Nasopharynx
    c. Larynx
2. Lower airways
    a. Trachea
    b. Mainstem bronchi
    c. Segmental bronchi
    d. Terminal bronchioles
    e. Respiratory bronchioles
    f. Acini and alveoli
3. Bronchopulmonary segments
    a. Right lung segments
    b. Left lung segments
4. Mucus blanket
    a. Sol layer
    b. Gel layer
    c. Epithelium
    d. Goblet cells and mucus glands
5. Action of the respiratory muscles in relation to rib, thoracic movement and pleural pressures
    a. During inspiration
    b. During expiration
    c. At rest
6. Alveolar capillary membrane and gas diffusion
    a. Type 1 cells
    b. Type 2 cells
7. Lung volumes and capacities
    a. Four volumes
    b. Four capacities
8. Pulmonary, systemic, and bronchial circulation
    a. Pulmonary
    b. Systemic
    c. Bronchial
9. Large arteries and veins
    a. Arteries
    b. Veins

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. When taught on campus: classroom with computer and internet access, document camera and DVD/CD player. For online work, must have access to a computer with internet.
2. When taught via Foothill Global Access: must have access to a computer with internet.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Written quizzes
Midterm
Final examination

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture

Representative Text(s) and Other Materials

Beachey, W.. Respiratory Care Anatomy and Physiology, 4th ed.. 2016.

Kacmarek, Stoller, and Heur. Egan's Fundamentals of Respiratory Care, 12th ed.. 2019.

While the Beachey text is over five years old, it still represents the standard in the field.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

Assigned reading from textbook, approximately one chapter/week.

Discipline(s)

Respiratory Technologies