

SYLLABUS
PART I
EDISON STATE COMMUNITY COLLEGE
RSP 110S CARDIOPULMONARY ANATOMY AND PHYSIOLOGY
2 CREDIT HOURS

COURSE DESCRIPTION

This course will involve a detailed examination of the anatomy and physiology of the cardiovascular and renal systems. All aspects of ventilation will be studied, including gas diffusion, gas transport, electrophysiology of the heart, renal function, hemodynamic monitoring, and the normal mechanisms of breathing and ventilation. Prerequisite BIO 124S and instructor permission. Lab fee.

COURSE GOALS

The student will:

| Bloom's Level | | Program Outcomes |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2 | 1. Explain the normal mechanism of breathing and ventilation. | 2 |
| 4 | 2. Summarize the barometric effect of gasses on the body. | 2 |
| 3 | 3. Discuss the importance in hemodynamic monitoring data and the values associated with normal cardiac function. | 2 |
| 4 | 4. Explain acid-base balance and interpret arterial blood gas results. | 2 |
| 2 | 5. Define the differences between normal and abnormal hemodynamic values, aortic and venous systems, and adult and fetal cardiac anatomy. | 2 |

CORE VALUES

The Core Values are a set of principles that guide in creating educational programs and environments at Edison State. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives, and activities in this course will introduce/reinforce these Core Values whenever appropriate.

TOPIC OUTLINE:

1. Anatomy of the upper airway
2. Mechanism of breathing, lung compliance, and airway resistance
3. Partial pressures of gas in the atmosphere
4. Neurological control of breathing
5. Gas laws and diffusion
6. Ventilation
7. Oxygenation (oxygen transport, oxygen dissociation curve)
8. Acid-base balance
9. Anatomy of the heart
10. Electrophysiology of the heart
11. Pulmonary circulation
12. Systemic circulation