

## **RESP-222 NEONATAL AND PEDIATRIC RESPIRATORY CARE**

**4 CREDITS**

### **SYLLABUS**

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#### **CATALOG DESCRIPTION**

This course introduces assessment skills, resuscitative procedures and appropriate therapies needed to treat the pediatric patient. This course also includes a study of neonatal anatomy and physiology, labor and delivery, high risk infants, resuscitation, and common neonatal pathologies and modalities for their treatment.

Prerequisites: RESP 122, 124, 220, 226, 228

Co-Requisites: RESP 230, 232, 238, 240

Semester Offered: Fall Semester

#### ***COMMON STUDENT LEARNING OUTCOMES***

*Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...*

##### **BROAD AND SPECIALIZED LEARNING**

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

##### **CRITICAL THINKING**

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

##### **CULTURAL AND CIVIC ENGAGEMENT**

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

##### **EFFECTIVE COMMUNICATION**

Students will exchange ideas and information with clarity in multiple contexts.

##### **INFORMATION LITERACY**

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

##### **INTEGRATING TECHNOLOGIES**

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

#### **COURSE LEARNING OUTCOMES**

*Upon successful completion of the course, the student will be able to:*

## GENERAL LEARNING OBJECTIVES

1. Describe fetal lung development and circulation.
2. Discuss the tests performed to assess lung maturity.
3. Discuss the fetal-neonatal transition.
4. Describe the management of critically-ill neonate.
5. Compare the physical assessment of the newborn and pediatric patients.
6. Identify and discuss the basic respiratory care modalities for neonatal and pediatric patients.
7. Discuss the airway and ventilator management of neonatal and pediatric patients.
8. List and describe special procedures and patient transport for neonatal and pediatric patients.
9. Discuss high frequency ventilation.  
Discuss the common cardiopulmonary disorders found in newborn and pediatric patients.

## SPECIFIC LEARNING OBJECTIVES

*Upon successful completion of the course, the student will be able to:*

1. Describe fetal lung development and circulation:
  - A. Compare prenatal and postnatal development and their abnormalities.
  - B. Describe fetal circulation and fetal hemoglobin.
2. Discuss the tests performed to evaluate lung maturity:
  - A. Explain the lecithin-sphingomyelin ratio.
  - B. Explain phosphatidylglycerol test.
  - C. Explain the shake test.
3. Discuss the fetal-neonatal transition:
  - A. State the events during labor and delivery.
  - B. Describe the initiation of the first breath.
  - C. Discuss the transition from fetal to newborn circulation.
4. Compare the physical assessment of the newborn and pediatric patients:
  - A. Describe the physical examination and assessment of the newborn.
  - B. Describe the physical examination and assessment of the pediatric patient.
5. Describe the management of critically-ill neonate:
  - A. Discuss temperature regulation of the neonate.
  - B. Explain fluid and electrolyte balance.
  - C. Describe neonatal jaundice.
  - D. Identify infection control measures for the newborn.
  - E. Identify nutritional issues that can affect the newborn.
6. Identify and discuss the basic respiratory care modalities for neonatal and pediatric patients:
  - A. Oxygen and humidity therapy
  - B. Airway clearance techniques
  - C. Aerosolized drug therapy
  - D. Bronchial hygiene techniques
7. Discuss the airway and ventilator management of neonatal and pediatric patients:
  - A. Describe neonatal asphyxia.
  - B. Discuss and demonstrate resuscitation of the newborn.

- C. Describe the anatomical and physiological differences affecting mechanical ventilation.
  - D. Identify the indications for mechanical ventilation.
  - E. Differentiate the modes of ventilation.
  - F. State the requirements for initiating mechanical ventilation.
  - G. Describe the assessment of mechanical ventilation.
  - H. Explain the process of weaning and extubation.
  - I. Describe the methods of administration of CPAP therapy.
  - J. Identify the hazards and complications of mechanical ventilation.
  - K. Discuss and demonstrate pediatric advanced life support (PALS).
8. List and describe special procedures and patient transport for neonatal and pediatric patients:
- A. Discuss surfactant replacement therapy.
  - B. Describe Extracorporeal Membrane Oxygenation (ECMO).
  - C. Identify special gas mixtures.
  - D. Describe liquid ventilation.
  - E. Demonstrate neonatal and pediatric transport.
9. Discuss high frequency ventilation (HFV):
- A. Classify HFV ventilators.
  - B. Explain criteria for patient selection.
  - C. List and compare high-frequency ventilators.
  - D. Discuss management strategies.
  - E. Identify complications of HFV.
10. Discuss the common cardiopulmonary disorders found in newborn and pediatric patients:
- A. List and explain the pathology and management neonatal cardiopulmonary disorders.
  - B. List and explain the pathology and management of pediatric cardiopulmonary disorders.

#### ASSESSMENT TECHNIQUES

- 1. Quizzes
- 2. Homework/Project
- 3. Skills Competencies
- 4. Mid-term Exam
- 5. Final Exam

#### ACCOMMODATIONS STATEMENT

Students who need accommodations (i.e., note-taker, interpreter, special seating, etc.) need to provide accommodation notices to the instructor. Students can contact the Students with Disabilities on Campus (SDOC) Coordinator in the Counseling Center, located in the Administration Building, to make arrangements and provide documentation in accordance with the Americans with Disabilities Act of 1990.

#### ACADEMIC HONESTY RULES

San Juan College expects all students to adhere to the Academic Honesty Rules as posted on our website, <http://www.sanjuancollege.edu/academichonesty>. All Health Sciences Programs have a responsibility to ensure enrolled students and graduates are safe, ethical and competent practitioners. To ensure professionalism, students and faculty must uphold and abide by college and program accreditation specific policies.

SYLLABUS DEVELOPED AND/OR REVIEWED BY:

Dean of Health Sciences: \_\_\_\_\_ Date: \_\_\_\_\_

Director of Respiratory Therapy: \_\_\_\_\_ Date: \_\_\_\_\_

Clinical Coordinator of RT: \_\_\_\_\_ Date: \_\_\_\_\_