

SOUTHEAST COMMUNITY COLLEGE
HEALTH SCIENCES DIVISION
RESPIRATORY CARE
Created Date: 11/2023

I. CATALOG DESCRIPTION

Course Number:	RESP 1181
Course Title:	Respiratory Care over the Lifespan
Prerequisite(s):	Completion of previous term
Catalog Description:	Application of Respiratory Care to patients in age-specific practice.
Credit Hours:	3
Class Hours:	45
Lab Hours:	0
Total Contact Hours:	45

II. COURSE OBJECTIVES: *Course will:*

1. Discuss embryological and fetal growth.
2. Summarize the stages of labor and delivery.
3. Evaluate the techniques used in resuscitation and stabilization of the neonatal and pediatric patient according to NRP Guidelines.
4. Show the necessary steps required for the assessment of the neonatal and pediatric patient.
5. Justify the necessary respiratory care procedures and general considerations for the neonatal and pediatric patient.
6. Outline various perinatal lung diseases and other problems of prematurity.
7. Summarize conventional and non-conventional methods of mechanical ventilation of the neonatal and pediatric patient.
8. Discuss perinatal transportation.
9. Manage a conventional mechanical ventilator for a given case study.
10. Review the components of a successful pulmonary rehabilitation program.
11. Identify the role of Respiratory Care practitioners in qualifying a patient for home care.
12. Simulate the modification of patient care plans supported by evidence-based literature.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Students will be able to:*

1. Demonstrate education of a patient/family for a given scenario.
2. Create a management plan for chronic conditions, such as sleep disordered breathing, COPD, asthma, and/or restrictive lung conditions.

B. GENERAL EDUCATION LEARNING OUTCOMES

1. GELO #3: Critical Thinking & Problem-Solving Outcomes:

- a. Collect, identify, interpret and analyze data.
- b. Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE *(course outline may provide more detailed information)*

A. EMBRYOLOGIC DEVELOPMENT OF THE CARDIOPULMONARY SYSTEM

1. Embryologic Development of the Fetus
2. Development of the Pulmonary System
3. Surface Forces and the Role of Surfactant
4. Fetal Lung Fluid
5. Development of the Cardiovascular System
6. Fetal Circulation

B. ANTENATAL ASSESSMENT AND HIGH-RISK DELIVERY

1. Modalities to Assess Fetal Status
2. Biophysical Test of Fetal Well-Being
3. Factors Identifying a High-Risk Pregnancy

C. LABOR, DELIVERY, AND PHYSIOLOGIC CHANGES AFTER BIRTH

1. Stages of Normal Labor and Delivery
2. Abnormal Labor and Delivery
3. Adaptation to Extrauterine Life

D. TECHNIQUES OF RESUSCITATION AND STABILIZATION

1. When to Resuscitate Neonates
2. Steps in Neonatal Resuscitation
3. Evaluation of Resuscitative Efforts

E. ASSESSMENT OF THE NEONATAL AND PEDIATRIC PATIENT

1. Anatomic and Physiologic Considerations
2. Physical Assessment of the Neonate
3. Neurologic Assessment of the Neonate
4. Gestational Age and Size Assessment
5. Silverman Anderson Index
6. Assessment of the Pediatric Patient
7. Rapid Cardiopulmonary Assessment (PALS)

F. RESPIRATORY CARE PROCEDURES (Review only)

1. Chest Physiotherapy
2. Aerosolized Drug Therapy
3. Suctioning
4. Oxygen/Heliox/Nitric Oxide Therapy

G. GENERAL CONSIDERATIONS OF CONTINUING CARE

1. Thermoregulation
2. Overstimulation Effects
3. Skin Care of the Premature Neonate
4. Fluid and Electrolyte Balance
5. Neonatal Jaundice
6. Necrotizing Enterocolitis
7. Behavior Based Care

H. ASSESSMENT OF OXYGENATION AND VENTILATION

1. Arterial Blood Gas Basics
2. Arterial Blood Gas Assessment
3. Capillary Gas Assessment
4. Transcutaneous Monitoring
5. Pulse Oximetry
6. Capnography

I. PERINATAL LUNG DISEASE AND OTHER PROBLEMS OF PREMATURITY

1. Consequences of Premature Birth
2. Processes of Intrauterine Origin
3. Barotraumatic Disease
4. Respiratory Diseases of the Neonate

J. CAUSES OF PERSISTENT PERINATAL ILLNESS

1. Infections
2. Fetal Immunities
3. Congenital Anomalies
4. Respiratory Care of the Patient with Cardiac Defects

K. PEDIATRIC DISEASES REQUIRING RESPIRATORY CARE

1. Ventilatory Diseases
2. Neuromuscular Disorders
3. Infectious Lung Diseases
4. Diseases of the Upper Airways
5. Sudden Infant Death Syndrome (SIDS)

L. APPLICATION OF MECHANICAL VENTILATION

1. Initiation of Neonatal Ventilator Support
2. Changing Neonatal Ventilator Parameters
3. Identification of Neonatal Readiness to Extubate
4. Initiation of Pediatric Ventilator Support
5. Changing Pediatric Ventilator Parameters
6. Weaning and Extubation of the Pediatric
7. Airway Management of the Neonate & Pediatric

M. SPECIAL PROCEDURES AND NONCONVENTIONAL VENTILATORY TECHNIQUE

1. High-Frequency Ventilation
2. Extracorporeal Membrane Oxygenation
3. Surfactant Replacement Therapy
4. Nitric Oxide Delivery

N. PERINATAL TRANSPORT

1. History
2. Types of Transport
3. Equipment
4. Infant Preparation and Transportation
5. Special Needs

O. PULMONARY REHABILITATION

1. Patient selection
2. Components of a program
3. Application of Outcomes to Manage Disease

P. HOME HEALTH CARE

1. Qualifying the patient for services
2. Assessment and Evaluation
3. Selection of appropriate home therapy devices
4. Infection control

Q. PATIENT EDUCATION

1. Strategies
2. Evaluate effectiveness
3. Components to Include for Various Conditions
4. Modification of Plan of Care

V. INSTRUCTIONAL MATERIALS REQUIRED

- A.** Required Text(s): Walsh, Brian. Neonatal and Pediatric Respiratory Care, current edition. Elsevier Health Sciences (US)

VI. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:**

1. Examinations
2. Quizzes
3. Assignments
4. Presentations

SCC STANDARD GRADING SCALE POLICY:

A+	95-100	C+	75-79
A	90-94	C	70-74
B+	85-89	D+	65-69
B	80-84	D	60-64
		F	Below 60

VII. SPECIFIC COURSE REQUIREMENTS

A. ATTENDANCE

1. Attendance is crucial to the success of this course. Any class missed could mean valuable missed information, which is difficult to obtain. Please notify the instructor of any pending absences or if you will be late.

- B.** Requires a grade of "C+" or better to advance to the next term of the Respiratory Care Program.