

Bergen Community College  
Division of Health Professions  
Department of Respiratory Care

**RSP-119 INTRODUCTION TO RESPIRATORY CARE**

Semester and Year:

Course and Section Number: RSP-119 Lab sections 001-004

Meeting Times and Locations: Lecture Thursday, Friday 0800-0915 room HP-126  
All labs in room HP-230

Instructor:

Office Location:

Phone:

Departmental Secretary:

Office Hours:

Email Address:

**Course Description**

List lecture hours, laboratory hours, and credits: 3.0 lectures, 3.0 labs, 4.0 credits

List co-requisites: RSP-110, RSP-121.

Course Description: Introduction to Respiratory Therapy is a study of the respiratory therapist's role as a member of the medical team. Gas laws, physics, physiology, medical equipment terminology are taught. In addition, it provides the student with an in depth understanding of medical gas administration, humidity and aerosol therapy, safety systems, airway management and infection control. Students will also learn the mechanical devices utilized to maintain patent airways and the various utilities in the treatment of respiratory and cardiac arrest. Laboratory exercises provide students with an opportunity to develop skills in the application of all equipment modalities, and to demonstrate their skills in resuscitation and airway management.

**Course Content**

This course is intended to introduce students to the fundamental concepts of respiratory therapy. The course begins with the foundations of respiratory care such as history, patient safety, communication, record keeping, and principles of infection control, ethics, gas laws and physics. Gas exchange, O<sub>2</sub> transport, and regulation of breathing, patient assessment skills are covered. The course then covers basic therapeutics including CPR, medical gas therapy and delivery, aerosol and humidity therapy, aerosol drug therapy, lung expansion therapy and bronchial hygiene therapy. The course culminates to provide an in depth understanding of all aspects of airway management.

**The Instructional Methods:** Lecture, laboratory, PowerPoint, Internet, small group discussions, review questions, computer programs, simulation center.

**Special Features of the Course (if any)**

Moodle posting system is used to enhance the interaction with the student.

**Course Texts and/or Other Study Materials**

Egan's Fundamentals of Respiratory Care, Kacmarek, Stoller, Heuer 11th Ed. Mosby 2017.  
ISBN978-0-323-34136-3

Competency System by DataArc. To be purchased in the College bookstore.

**How to Get the Book(s) for the Course:** The book must be purchased at the Bergen Community College Bookstore, either in person or on line.

**Extra Credit: 2 points to the final grade Date TBA**

**Medical Gas Therapy exam: achieve a grade of 92 or more to receive the full 2 points added to the student's total grade.**

**Grading Policy**

Lecture Examinations/Short answer/multiple choice (4 @ 10% each)	40%
Laboratory practical exams: synthesis/Evaluation (2 @ 25% each)	50%
Quizzes (4)	10%
Total	100%

**Grading System**

A	93 -100%
B+	88 – 92.9 %
B	83 – 87.9 %
C+	78 – 82.9 %
C	Not acknowledged
D	Not acknowledged
F	Below 78%
W	Official course withdrawal
E	Unofficial course withdrawal

**Late work or Assignments:**

Make-ups for examinations and course work will be the exception and only sparingly approved by the instructor. If, in the instructor's judgment, the student has presented a good excuse for missing the examination or work, the instructor may approve a make-up examination with the exam penalized. If the student does any late work, they will be penalized, and their grade will be no greater than 75%. Makeup exams and quizzes will be completed at the end of the semester.

**Recommended Practices**

To succeed in this course, you should do the following:

- Read and follow the Course Syllabus.
- Do all required reading in accordance with the "Course Outline, Reading Assignments, and Course Calendar".
- In addition to the required text readings, study the PowerPoint presentations.
- Participate actively and frequently in all class discussions and other class activities.
- Review (everything).
- Keep in touch with me – in class, by phone, by email, and during my office hours. Don't become "invisible" or otherwise fade away.

**Important College Policies – See the 2019 BCC Online Catalog**

Withdrawal from Classes and Refunds

Grading

Course Grade Appeal Policy

Academic Integrity and Plagiarism **Read this carefully.**

Acceptable Use of Information Technology Resources

Clubs

Code of Student Conduct

Alcohol and Drug Policy

Family Education Rights and Privacy Act of 1974

Sexual Harassment Policy

Campus Assault Victim's Bill of Rights

Smoking Policy

Traffic Regulations

**Attendance Policy**

**BCC Attendance Policy:**

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

**Respiratory Therapy Departmental Attendance Policy:**

***Attendance Policy: Effective fall 2019***

Attendance and punctuality at all class sessions is required and will be factored into the student's overall final grade. Attendance for classroom lecture and lab will be factored into the total grade for the course. For every absence from classroom lecture or lab, 1 point will be deducted from the total grade for the course. If the student is late by 10 minutes for the lecture or lab, 0.5 points will be deducted from the total grade.

Students are expected to attend class regularly and punctually. Attendance will be taken at each class session. It is expected that class will be conducted such that students will benefit by the lectures and class discussion. If students occasionally arrive late, they should be encouraged to enter quietly, not disturbing the class. If students miss class, they should be encouraged to use the course calendar to stay abreast of material. It is probably a good idea for students to find study partners and to exchange telephone numbers.

## Course Website

This section of RSP-119 Introduction to Respiratory Care is a "web-enhanced" class. The class has its own website, and each member of the class has an account for the website. The BCC online course management system is known as "Moodle Rooms."

The course website contains an online version of our course syllabus, a regularly-updated list of course announcements, PowerPoint presentations on the readings for the course.

I expect you to utilize the website and its facilities throughout the semester. If necessary, we will also discuss in class how to access and use the course website.

## Departmental Policy Statements

1. Acceptable quality of work and mature behavior is always expected from every student. Students are regarded as professionals and are expected to conduct themselves accordingly.
2. High standards of professional performance demand that students maintain good academic progress throughout their course of study in the program.
3. Students demonstrating chronic tardiness or absenteeism will be placed on academic warning or probation and may be subjected to termination from the program.
4. Absence from a class during a scheduled exam will be subject to the policy of the instructor for that specific course. If the student is going to miss a scheduled exam it is expected that the student will contact the instructor ahead of time by e-mail or phone to the department office.
5. All students are required to adhere to the policies and procedures of the school as outlined in the college catalog.
6. Additional department policies are in the Student Policies and Procedures Manual.
7. No cell phones allowed during class, exams and when exams are reviewed. This policy will be strictly enforced.

## Student and Faculty Support Services

1. The program faculty maintain office hours for counseling and are available to provide tutorial assistance to students.
2. Students must make appointments in advance to meet with the respective instructors.
3. Students may also obtain assistance from the College Tutoring Center. Appointments must be made in advance through this center.
4. The College has a personal counseling center for those students who may need personal assistance. Appointments are made directly through this center.
5. Any problems, concerns, or questions should be directed to the course instructor or the student's advisor.

The Sidney Silverman Library is committed to providing a quiet, welcoming, respectful atmosphere conducive to study and research in an environment that is comfortable, clean, and safe. The use of the library will be beneficial in providing resources on researching topic information, citation styles, finding current articles among many other media services available.

## Course Outline, Goals and Objectives

### Unit 1 Introduction

Goal: To introduce the student to the rationale of Respiratory Care, history, development, professional organizations, education and the future of respiratory care.

Objectives:

Because of meeting the requirements in this course, students will be able to:

1. Define Respiratory Care.
2. Describe the history of Respiratory Care and how it began.
3. Describe the major respiratory care educational, credentialing, and professional organizations.
4. Describe the development of respiratory care education.
5. Predict future trends for respiratory care.

### **Unit 2 Quality and Evidence-Based Respiratory Care**

**Goal:** To introduce the student to the elements of medical direction, respiratory therapists and their credentials, professionalism, technical direction, evidence based medicine and methods for enhancing quality respiratory care such as protocols, restructuring and design, disease management and peer review organizations.

#### **Objectives:**

Because of meeting the requirements in this course, students will be able to:

1. Describe the elements that constitute quality respiratory care.
2. Explain methods used for monitoring the quality of respiratory care that is provided.
3. Explain how respiratory care protocols enhance the quality of respiratory care services.
4. Define disease management.
5. Describe evidence-based medicine.

### **Unit 3 Communication, Patient Safety and Recordkeeping and Ethical/Legal Implications of Practice**

**Goal:** To introduce the student to the basic modalities of communication, to improve communication between physician/practitioner's and patients and to help improve overall patient care through proper patient safety, conflict resolution and recordkeeping. AARC code of ethics and statement of professionalism, ethical dilemmas of practice, legal issues affecting respiratory care, and HIPPA laws are discussed.

## Objectives:

Because of meeting the requirements in this course, students will be able to:

1. Define a professional-patient relationship, professional-professional relationships, and patient-family relationships.
2. Describe how professional codes of ethics apply to ethical decision making.
3. Summarize the basic elements of the Health Insurance Portability and Accountability Act of 1996 (HIPPA).
4. Describe the role of advance directives and living wills in health care.
5. Explain what constitutes an ethical dilemma and how such issues arise in health care.
6. Identify the AARC Code of Ethics via the AARC website.

## **Unit 4 Infection Control**

Goal: To introduce the student to infection control practices and principles, etiology and epidemiology, barrier devices and precautions, various methods for equipment decontamination, disinfection and sterilization, surveillance methods, and implementing infectious disease protocols and VAP protocols.

Because of meeting the requirements in this course, students will be able to:

1. Identify and describe the nature and measurement of micro-organism growth and reproduction.
2. Identify and describe the sequence of events and factors governing the transmission of pathogenic microorganisms:
  - a. describe the sources and give examples of major pathogens found in the hospital environment.
  - b. identify adaptive or protective mechanisms of micro-organisms.
  - c. define health care associated infections and state how often they occur.
  - d. identify and describe three elements that must be present for transmission of infection within a healthcare setting.
  - e. list the factors associated with an increased risk of a patient acquiring a nosocomial infection.
  - f. state when to use general protective barrier measures during patient care.

3. Differentiate between the various methods utilized to prevent or minimize nosocomial infections in hospitals:
  - a. medical asepsis
  - b. surgical asepsis
  - c. disinfection/sterilization
  - d. isolation techniques
4. Differentiate between the various terms used to describe the relative effectiveness of processes and activity of agents utilized to control the growth of microorganisms.
5. Compare and contrast the rationale, action, advantages, limiting factors, hazards, methods of application, use, disinfection or sterilization:
  - a. pasteurization
  - b. steam autoclave
  - c. liquid chemical
  - d. gas chemical
6. Identify and describe the rationale, goals, and methods of a contamination surveillance program for:
  - a. patients undergoing respiratory care
  - b. respiratory therapy equipment
  - c. equipment processing techniques
  - d. home care equipment
7. Incorporate ventilator-associated pneumonia protocols.
8. Implement infectious disease protocols such as: Avian flu, SARS, transmission prevention.

### **Unit 5 Physics, Gases and The Gas Laws**

**Goal:** To introduce the student to Physics, especially the properties of matter. More specifically, to develop a thorough understanding of both atmospheric and medical gas properties, characteristics, potential changes, measuring devices, influential laws, and the relationship of both with humidity.

#### **Objectives:**

Because of meeting the requirements in this course, students will be able to:

1. Identify physical properties of gases.

2. Explain the following characteristics of gases: under extremes of pressure, temperature, volume, and density.
3. Identify the factors that influence the vaporization of water.
4. Describe how water vapor capacity, absolute humidity and relative humidity are related.
5. Define Dalton's Law of Partial Pressure and illustrate with an example.
6. Explain conditions needed to achieve 100% body humidity.
7. Define and calculate humidity deficit.
8. Interpret the following gas laws- Boyle's Law, Charles' Law, Gay-Lussac's Law, and Henry's law and calculate gas law problems.

### **Unit 6 Gas Cylinders with Pressure and Flow Regulating Devices**

**Goal:** To understand all aspects of and demonstrate proper use of medical gases, storage, medical gas cylinders, operation of pressure and flow regulating devices, and duration of gas flow calculations.

**Objectives** As a result of meeting the requirements in this course, students will be able to:

1. Identify the regulating agencies involved with compressed gas.
2. Describe the regulation specifications pertaining to cylinder construction, markings, labels, storage, transportation use, and color codes.
3. Compare and contrast the three index systems for large and small cylinders.
4. Distinguish various size cylinders and identify their contents.
5. Demonstrate safety and caution in the transportation and use of cylinders.
6. Interpret the meaning of cylinder markings.
7. Discuss the clinical applications for medical gas use.
8. Describe how to assemble, check for proper function, and identify malfunctions in gas delivery equipment.



9. Determine the duration of the gas remaining in a cylinder, utilizing the cylinder duration formula.
10. Describe the parts of the bulk oxygen system.
11. Categorize gas pressure regulators or reducing valves by distinguishing single-stage regulators from multi-stage regulators and pre-set regulators from adjustable regulators.
12. Describe the construction of a Bourdon Gauge and explain how it functions.
13. Distinguish between those flowmeters that are Bourdon and Thorpe-tube flowmeters.
14. Explain back-pressure compensated flowmeters, needle valve placement in regards to both, and the affect restriction to flow would have on both.
15. Discuss what to do if the bulk oxygen system fails.
16. Describe the characteristics, regulating, testing, and labeling of medical gases/gas cylinders.
17. Describe safe handling and storage procedures for medical gas cylinders (including safety systems).
18. Differentiate between the characteristics, advantages of liquid and gaseous bulk oxygen systems.
19. Describe the commercial process for the manufacture of oxygen.
20. Differentiate between safety systems that apply to various equipment connections.
21. Summarize the rationale, physiological effects, clinical indications, methods of administration, monitoring, and hazards of: oxygen/helium therapy, hyperbaric oxygen therapy, and nitric oxide therapy.
22. Differentiate between the theory and principles of operation, advantages, disadvantages, clinical use and limitations of the following types of oxygen analyzers: electrochemical: Clark electrode and Galvanic or fuel cell.
23. Describe the principles of operation, design characteristics, clinical use, limitations and safety features of the following oxygen controlling devices:
  - a. Entrainment systems
  - b. Bird Oxygen Blender

24. Describe the principles of operation, design characteristics, clinical use, limitations and safety features of the following noninvasive blood gas monitoring devices:
  - a. pulse oximeter
  - b. transcutaneous oxygen monitor
25. Select the appropriate devices to regulate gas pressures and/or control flow during various clinical settings.
26. Describe how to assemble, check for proper function, and identify malfunctions in gas delivery equipment.
27. Identify and correct common malfunctions of gas delivery equipment.

**UNIT 7 - Oxygen Delivery Devices, Oxygen Therapy, Indications for Oxygen Therapy, and Hazards of Oxygen Therapy**

Goal: To introduce the general goals and clinical objectives to assess the need for oxygen therapy, the precautions and hazards of supplemental oxygen, the various oxygen delivery devices such as placement, performance, advantages, disadvantages, proper flow, oxygen concentrations, air to oxygen ratios, total liter flow calculations, and total liter flow in relation to peak inspiratory flow; and also demonstrate proper application of the devices on a fellow classmate.

Objectives

Because of meeting the requirements in this course, students will be able to:

1. Assess the need for oxygen therapy.
2. The student will differentiate low flow devices from high flow devices.
3. Describe the correct placement, performance, advantages, disadvantages, appropriate liter flow, and potentially achievable oxygen concentrations of the various oxygen delivery devices listed below:

High flow nasal cannula	Partial Rebreathing Mask
Nasal Cannula	Non-Rebreathing Mask
Nasal Mask	Air Entrainment (Venturi) Mask
Simple Mask	Face tent, trach collar
Oxygen Hoods and Tents	Aerosol Mask
T Tubes (Brigg's Adapter)	Nitric oxide therapy
	Hyperbaric oxygen therapy

## Helium-oxygen therapy

4. Describe what precautions and complications are associated with oxygen therapy.
5. Calculate Total Liter Flow (TLF) of the venturi oxygen mask.
6. Summarize the importance of the relationship of Total Liter Flow (TLF) and Volume Inspired ( $V_{insp}$ ) or Peak Inspiratory Flow (PIF).
7. Demonstrate proper assembly, application, and maintenance of various oxygen delivery devices on a classmate or a mannequin for adults.
8. Differentiate between the concepts of high flow, low flow, and reservoir delivery systems as they apply to the functional capabilities of the above devices.
9. Select an oxygen delivery system appropriate for the respiratory care plan.
10. Describe how to check for proper function and to identify and correct malfunctions of oxygen delivery systems.
11. List the goals/objectives of oxygen therapy.
12. Differentiate hypoxia from hypoxemia.
13. Describe how to evaluate, monitor and document a patient's response to oxygen therapy.
14. Summarize the following oxygen therapy hazards:
  - oxygen induced hypoventilation
  - atelectasis
  - retrolental fibroplasia (R.L.F./ROP)
  - oxygen toxicity
15. Describe hypoxic drive, hypercarbic drive, and simple respiratory gas exchange.
16. Describe how to modify or recommend modification of oxygen therapy based on patient response.
17. Describe how to implement protocol-based oxygen therapy.

## Unit 8 Gas Exchange and Transport

**Goal:** To introduce the mechanisms of oxygen transport within the body: including V/Q mismatching, anatomical and physiological shunt.

**Objectives:** As a result of meeting the requirements in this course, students will be able to:

1. Explain how oxygen is carried in the blood both chemically and physically.
2. Calculate the total oxygen content of the blood given the values.
3. Discuss factors that affect oxygen loading and unloading to the tissues.
4. Explain the normal oxygen content percentage and to recognize abnormal levels.
5. Describe the factors that impair oxygen delivery to the tissues and how to distinguish among them.

### **Unit 8 Humidity and Aerosol Therapy**

**Goal:** To identify the various aerosol and humidity devices used, and to provide an understanding of relative, absolute, molecular humidity and humidity deficits, indications for bland aerosol therapy, problem solving and troubleshooting of all aerosol equipment. Selection, assessment, assembly, indications and hazards of aerosol drug delivery equipment.

**Objectives:** As a result of meeting the requirements in this course, students will be able to:

1. Describe how airway heat and moisture exchange normally occurs.
2. State the effect that dry gases have on the respiratory tract.
3. State when to humidify and warm inspired gas.
4. Describe how various humidifiers work.
5. Describe how to enhance humidifier performance.
6. Explain how to select and safely use humidifier heating and feed systems.
7. Identify the indications, contraindications, and hazards that pertain to humidification during mechanical ventilation.

8. Describe how to monitor patients receiving humidity therapy.
9. Explain how to identify and resolve common problems with humidification systems.
10. State when to apply bland aerosol therapy.
11. Define the term aerosol and MMAD.
12. Describe how the following factors influence aerosol density, stability, aging and setting:
  - a. production methods
  - b. molecular activity
  - c. ambient temperature/humidity
  - d. particle size
  - e. solute content/liquid vapor pressure
  - f. carrier gas flow/velocity
13. Relate the dynamic characteristics of clinical aerosols to their penetration and deposition.
14. Differentiate between the principles of operation, functional, characteristics, clinical applications, indications and troubleshooting for the following categories of aerosols:
  - a. metered-dose inhalers
  - b. jet nebulizer:
    - small volume (medication)
    - large volume / high output
    - direct airway application in breathing circuits
  - c. electrical nebulizers:
    - ultrasonic, dry powered dispensers
15. Describe how to perform sputum induction.
16. State how to select the appropriate therapy to condition a patient's inspired gas.
17. List the hazards associated with aerosol drug therapy.
18. Describe how to select the best aerosol drug delivery system for a given patient.
19. Describe how to initiate and modify aerosol drug therapy.
20. State the information patients need to know to properly self-administer drug aerosol therapy.
21. Describe how to assess patient response to bronchodilator therapy at the point of care.

22. Describe how to apply aerosol therapy in special circumstances.
23. Explain how to protect patients and caregivers from exposure to aerosolized drugs.

### ***UNIT 9 Lung Expansion Therapy***

Goal: To familiarize the student with the various modes of hyperinflation therapies and their indications, contraindications and rationale for use.

Objectives: As a result of meeting the requirements in this course, students will be able to:

1. Define Incentive Spirometry, and PEP therapy and the clinical indications for administration.
2. Demonstrate the correct procedure for administering Incentive Spirometry, and PEP therapy.
3. Identify and describe the major mechanical and physiological factors which may impair alveolar ventilation, including atelectasis.
4. Discuss the major therapeutic goals and hazards of Incentive Spirometry, and PEP therapy.
5. Describe the primary responsibilities of the respiratory therapist in planning, implementing, and evaluating lung expansion therapy.
6. Identify and describe the physiological rationale, mechanical principles, indications, contraindications advantages, disadvantages, hazards and limitations of the following modes of hyperinflation therapy: incentive spirometry, and PEP therapy.
7. Identify the clinical findings seen in atelectasis.

### ***UNIT 10 Bronchial Hygiene Therapy***

Goal – To define bronchial hygiene therapy for both acute and chronic diseases. To discuss the indications, contraindications, and hazards. To evaluate the effectiveness, understand and demonstrate techniques and breathing exercises on lab partners and recognize and explain procedures for patients who require specialized positioning techniques. Selection of clearance strategies and protocol-based bronchial hygiene.

Objectives: As a result of meeting the requirements in this course, students will be able

to:

1. Describe how normal airway clearance mechanisms work and the factors that can impair their function.
2. Identify pulmonary diseases associated with abnormal clearance of secretions.
3. State the goals and clinical indications for bronchial hygiene therapy.
4. Describe the proper technique and potential benefit of each of the following: Postural drainage, percussion, directed coughing, PEP therapy, high frequency oscillation methods, mobilization and exercise.
5. Describe the various means of evaluating therapy effectiveness, including auscultation of breath sounds, sputum production, ease of breathing, and effectiveness of cough.
6. Demonstrate the correct position (s) on fellow students for drainage of all lung segments.
7. Demonstrate proficiency in manual, electrically and/or pneumatically powered percussors and vibrators.
8. Modify bronchial hygiene therapies based on the patient response.
9. Discuss the correct procedure for stimulation of a cough for patients unable to cough effectively.

## **UNIT 11 Airway Management**

**Goal:** To list equipment that is utilized for airway management, techniques of airway Clearance, maintenance, artificial airways, intubation/extubation, alternative airway devices and bronchoscopy.

**Objectives:** As a result of meeting the requirements in this course, students will be able to:

1. Identify equipment utilized for airway care, be able to describe the functions of various pieces of equipment and demonstrate proficiency in equipment use.
2. Explain the importance of a patent airway, describe the procedures for maintaining a patent airway, and demonstrate proficiency in the maintenance of a patent airway.
3. Describe and demonstrate the steps of an intubation procedure (both oral and nasal). Including indications, hazards/side effects, important anatomical features,

patient monitoring techniques, and methods for evaluating the adequacy of the established airway.

4. Discuss the significance of cuff pressure and demonstrate proper cuff inflation techniques.
5. Demonstrate the procedure for tracheostomy care.
6. Identify and differentiate the sterile apparatus used for suctioning versus in-line suction catheters.
7. Demonstrate the procedure of tracheobronchial/nasotracheal aspiration, including indications, patient preparation, equipment preparation, sterile technique, patient monitoring techniques, important time intervals, hazards/side effects and special problem situations.
8. Demonstrate proficiency in ventilation via mask, ET tube, or tracheostomy tube.
9. Discuss the oropharyngeal airway, nasopharyngeal and list the indications and contraindications and demonstrate proper insertion on the manikin.
10. Describe the different types of cuffs available and the advantages and disadvantages.
11. List the equipment required for endotracheal/nasotracheal intubation.
12. List the indications for a yankauer device.
13. Demonstrate the proper procedure for intubation.
14. Demonstrate the proper procedure for extubation.
15. Identify the types of damage that artificial airways can cause.
16. Identify when and how to extubate and decannulate a patient.
17. Describe how to use alternative airway devices: LMA, King tube, EOA.
18. List the factors that affect the FIO<sub>2</sub> delivered via a manual resuscitator.
19. List, and describe, at least four indications for endotracheal intubation.
20. Describe how to properly obtain sputum samples.
21. List the advantages, hazards and surgical complications (early/late) of tracheostomy.



22. Assess the need for and select an artificial airway.
23. Describe how to assist a physician in setting up and performing a bronchoscopy.

### **UNIT 12 - Cardio-Pulmonary Rehabilitation**

Goal - To define, explain and analyze a pulmonary rehab program including patient evaluation and selection, design, implementation, costs, fees, reimbursement, results, and hazards.

Objectives: As a result of meeting the requirements in this course, students will be able to:

1. Identify the goals of pulmonary rehabilitation programs.
2. Describe the rationale for exercise conditioning and psychosocial support of patients with chronic pulmonary disease.
3. Describe how to evaluate and select patients for pulmonary rehabilitation.
4. Define pulmonary rehabilitation program design including format and content.
5. List the educational content to be addressed in a pulmonary rehabilitation program.
6. Explain the implementation of a pulmonary rehabilitation program including staffing, facilities, scheduling, class size, equipment, and costs.
7. Describe the outcome measures that can be used to evaluate pulmonary rehabilitation programs.
8. Identify the potential hazards associated with pulmonary rehabilitation.

### **UNIT 13 - Respiratory Care in Alternative Settings**

Goal - To explain and describe oxygen therapy in the homecare/subacute care setting. To review the regulations, accreditation requirements, oxygen supply methods, Delivery, and the prescription. In addition, discharge planning, evaluation and process.

Objectives: As a result of meeting the requirements in this course, students will be able to:

1. Describe alternative care settings in which respiratory care is performed.
2. Describe the recent developments and trends in alternative site respiratory care.
3. Describe who regulates post-acute care.
4. List the CMS standards that apply to the delivery of post-acute respiratory care.
5. Describe how to formulate an effective discharge plan.
6. List factors to evaluate when assessing alternative care sites and support
7. Describe how to justify, provide, evaluate and modify oxygen O<sub>2</sub> therapy in post-acute care settings.
8. Describe how to select, assemble, monitor and maintain O<sub>2</sub> therapy equipment in alternative care settings.
9. Demonstrate how to instruct patients or caregivers and confirm their ability to provide post-acute care.
10. Describe proper documentation regarding patient evaluation and progress in post-acute care.
11. State how to ensure safety and infection control in alternative patient care settings.

### ***UNIT 14 Emergency Cardiovascular Life Support***

**Goal-** To identify the causes and prevention of sudden death including basic life support for all ages.

**Objectives:** As a result of meeting the requirements in this course, students will be able to:

1. List the causes of sudden cardiac arrest.
2. List the signs of sudden cardiac arrest, heart attack, stroke, and foreign-body airway obstruction.
3. Demonstrate how to perform cardiopulmonary resuscitation (CPR) on adults, children and infants.
4. Describe how to defibrillate with automated external defibrillators (AED) and manual defibrillators.

5. Describe how to evaluate quality and effectiveness of CPR.
6. List the complications that can occur during CPR.
7. State when not to initiate CPR.
8. Describe how to monitor patients pre-arrest, during CPR and post arrest.

### ***Unit 15 Bedside Assessment of the Patient***

Goal: To identify all key areas of complete head to toe assessment of the patient with normal values versus abnormal values and the significance of these measures.

Objectives:

1. Identify and perform all normal vital signs and state the proper values versus the abnormal values.
2. Identify and perform all skills of complete patient assessment including inspection, palpation, auscultation and percussion.
3. Describe appropriate patient interview techniques.
4. Identify breathing patterns associated with lung disease.
5. Identify normal versus abnormal lung sounds.
6. Define all key terms regarding patient assessment skills as listed in the chapter.

### ***Unit 16 Interpreting Clinical and Laboratory Data***

Goal: To identify all normal laboratory values and how these values are used to assist in the diagnosis of patients and various lung disorders.

1. Describe a critical laboratory value and its importance in clinical practice.
2. Define anemia, polycythemia, leukocytosis, leucopenia, and thrombocytopenia.
3. Identify which abnormal electrolyte disturbances interfere with normal respiratory function.
4. Describe the clinical tests used to identify cardiac stress and myocardial infarction.
5. Describe how the sputum gram stain and culture are used to diagnose pulmonary infections.

## RSP-119 LABORATORY COMPETENCY RECORD

**STUDENT NAME:** \_\_\_\_\_

*The instructor's initials and the date of accomplishment should be completed only by the instructor. These indicate successful completion of the evaluation and certification for the specified procedure. All competencies must be entered into the Dataarc system by the lab instructor.*

<b>Procedure</b>	<b>Due By Week</b>
Isolation	1
Handwashing	1
Vital Signs	3
Chest Assessment	4
Pulse Oximetry	4
Transport With O2	5
Adult CPR	7
Ped CPR, Infant CPR	7
Nasal Cannula	7
Non-Rebreather	7
High Flow Nasal Cannula	8
Air Entrainment	7
Aerosol Face Tent	8
Aerosol Face Mask	8
Aerosol Trach Collar	8
Aerosol T-Piece	8
Small Volume Nebulizer	7
Metered Dose Inhaler	7
Peak Flow Devices	9
Mucus Clearance Devices	9
Incentive Spirometry	9
Adult Percussive Vest	9
<b>The Following are from the file: Adult Critical Care Competencies</b>	
Set Up & Ventilation via ET Tube	12
Tracheotomy Care	12
Endotracheal Suctioning	12
Tracheal Suctioning	12
In-line Suctioning	12
Securing the Artificial Airway	13
Cuff Management	13
Intubation	13
Extubation	13

**Note to Students:** This Course Outline and Calendar is tentative and subject to change, depending upon the progress of the class.