

## **Respiratory Care Fundamentals II (RSPT 1331)**

**Credit:** 3 semester credit hours (2 hours lecture, 4 hours lab)

**Prerequisite:** RSPT 1213, RSPT 1329, RSPT 1207, RSPT 1325, RSPT 2210

**Co-requisite:** RSPT 1335, RSPT 1360



### **Course Description**

Continued development of knowledge and skills for respiratory care.

### **Required Textbook and Materials**

1. Respiratory Care Principles and Practice ( ISBN # 978-1-284-050000-4)
2. Dataarc access
3. Mosby's Respiratory Care Equipment 9<sup>th</sup> Edition ( ISBN # 978-0-323-09621-7)
4. A package of #882 Scantrons and #2 pencils
5. Dana Oaks – Pocket guide - Respiratory Care ( ISBN 0-932887-007)

### **Course Objectives**

Upon Completion of this course the student will be able to: Select, review, obtain, and interpret data related to lung expansion therapy, bronchial hygiene therapy, artificial airways, manual resuscitation devices, suctioning, pulse oximetry, bedside spirometry, arterial sampling techniques and blood gas analysis and interpretation in an intermediate respiratory care patient setting: select, assemble, and check equipment function, operation, and cleanliness: identify equipment malfunctions: maintain patient records: and apply therapeutic procedures.

Student will be able to

1. Select, assemble, check the function of equipment used in: lung inflation bronchial hygiene, intubation, extubation, ABG sampling and analysis, manual resuscitators, suctioning, pulse oximetry, bedside spirometry.
2. Review patient data /Collect and Evaluate Additional data/ recommend procedures to obtain additional data in order to select and or revise the appropriate Respiratory Therapy procedures to produce a desired patient outcome.
3. Manipulate Equipment by order or protocol/ Troubleshoot problems with the interaction of the patient with various Respiratory Care equipment.
4. Perform/demonstrate competency/maintain records/ communicate information/evaluate/ monitor/independently modify or recommend modifications to therapy (in the laboratory setting) for the following procedures: Peak flow measurements, manual resuscitators, pulse oximetry, chest physiotherapy, mucus clearance adjuncts, suctioning, intubation, extubation, securing artificial airways,

arterial blood gas sampling, Incentive spirometry, bedside side spirometry (mechanics).

## **Course Outline**

- I. Peak Flow
  - A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure/ Patient instruction
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- II. IPPB
  - A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure/ Patient instruction
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- III. Manual resuscitator
  - A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- IV. Pulse oximetry
  - A. Indications
  - B. Contraindications
  - C. Hazards

- D. Troubleshooting
  - E. Equipment
  - F. Procedure
  - G. Competency Evaluations
  - H. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- V. Chest physiotherapy
- A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure/ Patient instruction
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- VI. Mucus Clearance (Coughing/ HFCW/ PEP devices/vibratory PEP devices)
- A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure/ Patient instruction
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- VII. Suctioning
- A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Troubleshooting
  - E. Modify Procedure
  - F. Equipment
  - G. Procedure ( sterile/ Naso tracheal/ artificial airways /inline/ oropharyngeal)/ patient instruction
  - H. Competency Evaluations
  - I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- VIII. Airways
- A. Patency
  - B. Obstruction
  - C. Complications of obstruction
  - D. Equipment (Oral Airways, ET tubes, trachs

- E. Securing artificial airways
  - F. Indications
  - G. Hazards
  - H. Mannequinn Practice Intubation/Extubation
  - I. Troubleshooting
  - J. Modify Procedure
  - K. Competency evaluation
  - L. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- IX. Arterial blood gas sampling
- A. Indications
  - B. Contraindications
  - C. Hazards
  - D. Equipment
  - E. Procedure/ patient instruction
  - F. Troubleshooting
  - G. Modify Procedure
  - H. Mannequin ABG practice
  - I. Competency Evaluations
  - J. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- X. Arterial blood gas analysis
- A. Calibration
  - B. Equipment
  - C. Quality Control
  - D. Erroneous Results
  - E. Patient/Eternal Factors Affecting Values
  - F. Calibrated Values
  - G. Measured Values
  - H. Governing Bodies
- XI. Incentive spirometry
- A. Indications
  - B. Contraindications
  - C. Equipment
  - D. Troubleshooting
  - E. Patient instruction
  - F. Modify Procedure
  - G. Competency evaluations
  - H. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response
- XII. Bedside Spirometry ( mechanics)
- A. Indications
  - B. Contraindications
  - C. Equipment
  - D. Cleaning equipment
  - E. Procedure/ patient instruction
  - F. Troubleshooting
  - G. Modify Procedure
  - H. Competency Evaluations

- I. Evaluate/Monitor/ and modify(independently or recommend modifications) based on patients response

### **Grade Scale**

93 – 100	A
85 – 92	B
77 – 84	C
68 – 76	D
0 – 67	F

### **Course Evaluation**

Final grades will be calculated according to the following criteria:

1. 6- 8 exams **Daily pop quizzes will be given at the start of class. If you are late for class this pop quiz will not be made up. The average of the daily pop quiz grades will count as 1 exam. You may drop 2 daily pop quiz grades prior to average.** 80%
2. Lab 10%
3. Homework assignments 10 %

### **Course Requirements**

1. Competency in the following procedures:
  - a. Arterial puncture
  - b. Pulse oximetry
  - c. Incentive Spirometry
  - d. Chest PhysioTherapy
  - e. Mucus clearance devices ( PEP, Flutter)
  - f. Manual resuscitation
  - g. Intubation
  - h. Extubation
  - i. Endotracheal suctioning- (sterile technique)
  - j. In-line suctioning
  - k. Bedside spirometry (mechanics)
  - l. Monitoring cuff pressure
  - m. Trach care
  - n. Securing artificial airways

### **Course Policies**

1. No food or drink, or use of tobacco products in class

2. Beepers, telephones, headphones, and other electronic devices must be turned off while in class
3. No children allowed in the classroom
4. No late assignments will be accepted
5. Abide by LIT policies
6. Abide by policies within the Respiratory Care Handbook
7. Abide by instructor specific policies; this will be distributed on the first class day.
8. Exam dates will be distributed the first class day.
9. On days of test, you will place personal items at the front of the classroom, No electronic devices may be used during an exam. If you have a electronic device during an exam you will receive a 0 for that exam.
10. Labs are graded on attendance and participation. If you miss one lab your lab grade will be 90. If you miss 2 labs your lab grade will be 80, If you miss 3 labs your lab grade will be 70, If you miss 4 labs your lab grade will be 60. Early departure or tardiness will result in an absence. Failure to obtain competency in the required procedures will result in an "F" for the course.

### **Technical Requirements**

The latest technical requirements, including hardware, compatible browsers, operating systems, software, Java, etc. can be found online at:

[https://help.blackboard.com/en-us/Learn/9.1\\_2014\\_04/Student/015\\_Browser\\_Support/015\\_Browser\\_Support\\_Policy](https://help.blackboard.com/en-us/Learn/9.1_2014_04/Student/015_Browser_Support/015_Browser_Support_Policy) A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of the online technology and resources.

### **Disabilities Statement**

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building. You may also visit the online resource at <http://www.lit.edu/depts/stuserv/special/defaults.aspx>

### **Student Code of Conduct Statement**

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at [www.lit.edu](http://www.lit.edu) or obtained in print upon request at the Student Services Office. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document

## Course Schedule:

Week of	Topic	Required Reading
1	Peak Flow /bedside mechanics/ pulse oximetry	Principles and Practice ( pg 785,786) Mosby( pg 241,242
2	Incentive spirometry/ IPPB	Principles and Practice Ch 16 Mosby 7
3	IPPB, Manuel resuscitators	Principles and Practice Ch 16 Mosby 7
4	Exam #1/CPT	
5	CPT/ mucous clearance adjuncts	Mosby Ch 7 Principles and Practice Ch 16
6	Suctioning	Principles and Practice (page 370-374) Mosby Ch 5
7	Suctioning	Principles and Practice (page 370-374) Mosby Ch 5
8	Exam #2/ Artificial airways	
9	Artificial airways	Mosby Ch 5 Principles and Practice Ch 17
10	Artificial airways	Mosby Ch 5 Principles and Practice Ch 17
11	Artificial airways	Mosby Ch 5 Principles and Practice Ch 17
12	Artificial airways/ Exam #3	Mosby Ch 5 Principles and Practice Ch 17
13	Arterial blood gas	Mosby Ch 10 Principles and Practice Ch 4
14	Arterial blood gas	Mosby Ch 5 Principles and Practice Ch 17
15	Blood gas analysis and interpretation	Mosby Ch 10 Principles and Practice Ch 4
16	Blood gas analysis and interpretation	Mosby Ch 5 Principles and Practice Ch 17
Final Week	Exam #4	

Exact exam dates will be distributed on the first class day. This scheduled may be adjusted to facilitate student learning.

**LAB Schedule:**

<b>Week of</b>	<b>Topic</b>	<b>Required Reading</b>
1	Peak flow / Bedside mechanics/ pulse oximetry	Dataarc system
2	Incentive spirometry/ IPPB	Dataarc system
3	IPPB	Dataarc system
4	Manuel resuscitation devices	Dataarc system
5	CPT	Dataarc system
6	CPT/Mucus clearance adjuncts	Dataarc system
7	Lab exam #1 ( check offs)	Dataarc system
8	Suctioning	Dataarc system,
9	Suctioning/Artificial airways	Dataarc system,
10	Artificial airways	Dataarc system
11	Artificial airways	Dataarc system,
12	Cuff Pressure/ Trach care	Dataarc system,
13	Intubation	Dataarc system,
14	Extubation	Dataarc system,
15	Arterial puncture	Dataarc system,
16	Arterial puncture	Dataarc system
Final week	Lab exam #2 ( check offs)	Dataarc system

**Contact Information:**

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**Office hours:** Posted outside office. Additional times are available with appointment.