

Respiratory Care Fundamentals II (RSPT 1331)



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

Prerequisite: RSPT 1113, RSPT 1329, RSPT 1207, RSPT 1325, RSPT 2310

Co-requisite: RSPT 1335, RSPT 2353, RSPT 1360

Course Description

Provides a continuation of knowledge and skills for respiratory care including 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.

Required Textbook and Materials

1. Egan's Fundamentals of Respiratory Care (ISBN # 978-0-323-03657-3)
2. Egan's Fundamentals of Respiratory Care Workbook (ISBN # 978-0-323-05188-0)
3. Dataarc access
4. A package of #882 Scantrons and #2 pencils

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, IPPB, manual resuscitators, pulse oximetry, chest physiotherapy,

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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

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- 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

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- 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
- XIII. Inspiratory Muscle training (P-flex)
 - A. Indications
 - B. Contraindications
 - C. Equipment
 - D. Procedure/ patient instruction
 - E. Troubleshooting

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- F. Modify Procedure
- G. 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:

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|------------------------------|-----|
| 1. 6- 8 exams | 85% |
| 2. Lab | 10% |
| 3. Egan Homework assignments | 5% |

Course Requirements

1. Egan work book Chapter18- Analysis and Monitoring of gas exchange
2. Egan workbook Chapter 33- Airway Management
3. Egan workbook Chapter 39- Lung Expansion Therapy
4. Egan workbook Chapter 40- Bronchial Hygiene
5. Competency in the following procedures:
 - a. Arterial puncture
 - b. Pulse oximetry
 - c. IPPB therapy
 - d. Incentive Spirometry
 - e. Chest PhysioTherapy
 - f. Mucus clearance devices (PEP, Flutter)
 - g. Manual resuscitation
 - h. Intubation
 - i. Extubation
 - j. Endotracheal suctioning- (sterile technique)
 - k. In-line suctioning
 - l. Bedside spirometry (mechanics)
 - m. Monitoring cuff pressure
 - n. Trach care
 - o. 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

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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.

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.

Course Schedule

Week of	Topic	Required Reading
1	Peak Flow /bedside mechanics/ pulse oximetry	Egan Chapter 39
2	Incentive spirometry/ IPPB	Egan Chapter 39
3	IPPB, Manuel resuscitators	Egan Chapter 39
4	Exam #1 (homework for Chapter 39 due)/ CPT	Egan Chapter 40
5	CPT/ mucous clearance adjuncts	Egan chapter 40
6	Suctioning	Egan Chapter 40
7	Suctioning	Egan Chapter 40
8	Exam #2 (homework for Chapter 40 due)/ Artificial airways	Egan Chapter 33
9	Artificial airways	Egan Chapter 33
10	Artificial airways	Egan Chapter 33
11	Artificial airways	Egan Chapter 33
12	Artificial airways/ Exam #3 (homework for Chapter 33 due)	Egan Chapter 33
13	Arterial blood gas	Egan Chapter 18
14	Arterial blood gas	Egan Chapter 18
15	Blood gas analysis and interpretation	Egan Chapter 18
16	Blood gas analysis and interpretation	Egan Chapter 18
Final Week	Exam #4(homework for Chapter 18 due)	

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

LAB Schedule:

Week of	Topic	Required Reading
1	Peak flow / Bedside mechanics/ pulse oximetry	Egan Chapter 39
2	Incentive spirometry/ IPPB	Egan Chapter 39
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, Egan Chapter 13
9	Suctioning/Artificial airways	Dataarc system, Egan Chapter 13
10	Artificial airways	Dataarc system Egan Chapter 13
11	Artificial airways	Dataarc system, Egan Chapter 13
12	Cuff Pressure/ Trach care	Dataarc system, Egan Chapter 13
13	Intubation	Dataarc system, Egan Chapter 13
14	Extubation	Dataarc system, Egan Chapter 13
15	Arterial puncture	Dataarc system, Egan Chapter 18
16	Arterial puncture	Dataarc system Egan Chapter 18
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.