



Western Technical College

# 10515111 Respiratory Survey

## Course Outcome Summary

### Course Information

<b>Description</b>	Examines the role of the Respiratory Therapist within the healthcare community. Reviews the ethical, legal, and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. Emphasis is placed on promotion of evidence-based practice using established clinical practice guidelines and published research for its relevance to patient care.
<b>Career Cluster</b>	Health Science
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	3
<b>Total Hours</b>	72

### Textbooks

*Egan's Fundamentals of Respiratory Care*. 12th Edition. Copyright 2021. Kacmarek, Robert M., James K. Stoller and Albert J. Heuer. Publisher: Elsevier Science. **ISBN-13:** 978-0-323-81121-7. Required.

### Learner Supplies

Basic 4-function nonprogrammable calculator. **Vendor:** Campus Shop. Required.

Water resistant watch with second hand. **Vendor:** To be discussed in class. Required.

Stethoscope - \$25-\$200. **Vendor:** To be discussed in class. Required.

### Success Abilities

1. Cultivate Passion: Enhance Personal Connections
2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability

6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically
8. Refine Professionalism: Improve Critical Thinking
9. Refine Professionalism: Participate Collaboratively
10. Refine Professionalism: Practice Effective Communication

## **Program Outcomes**

1. Apply respiratory therapy concepts to patient care situations.
2. Demonstrate technical proficiency required to fulfill the role of a Respiratory Therapist.
3. Practice respiratory therapy according to established professional and ethical standards.

## **Course Competencies**

### **1. Differentiate professional agencies**

#### **Assessment Strategies**

- 1.1. in an written assessment or graphic
- 1.2. by answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

#### **Criteria**

*Your performance will be successful when:*

- 1.1. you examine the NBRC matrix
- 1.2. you summarize key principles within HIPAA
- 1.3. you identify the important agencies related to respiratory therapy
- 1.4. you describe the purpose of the agencies
- 1.5. you relate their role in credentialing and certification
- 1.6. you examine AARC Code of Ethics and the State of Wisconsin License guidelines

#### **Learning Objectives**

- 1.a. Describe the role that the NBRC, the CoARC, and the Wisconsin Department of Safety and Professional Services plays in your ability to work as a Respiratory Care Practitioner.
- 1.b. Explain the purpose of the AARC.
- 1.c. Explain the importance of the NBRC exam matrix.
- 1.d. Explain the requirements for licensure in the State of Wisconsin.
- 1.e. Define scope of practice and medical direction as it relates to the practice of respiratory care.

### **2. Perform pulse oximetry**

#### **Assessment Strategies**

- 2.1. in the laboratory
- 2.2. with a client
- 2.3. without the use of references
- 2.4. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

#### **Criteria**

*Your performance will be successful when:*

- 2.1. you select the correct oximeter
- 2.2. you perform all critical steps in the right order
- 2.3. you properly identify patient according National Safety Standards.
- 2.4. you employ pulse oximetry
- 2.5. you wear personal protective equipment
- 2.6. you follow safety procedures
- 2.7. you verbalize an explanation of the process as you perform it

- 2.8. your explanation presents sound reasoning as you describe the decisions you make throughout the process
- 2.9. you verbalize the limitations, side effects and complications of pulse oximetry
- 2.10. you demonstrate an understanding of normal values and what can cause abnormal values

#### **Learning Objectives**

- 2.a. Interpret data from non-invasive assessment of oxygenation.
- 2.b. Demonstrate how to assess the accuracy of pulse oximetry.
- 2.c. Explain the technology of pulse oximetry.
- 2.d. Relate SpO<sub>2</sub> to PaO<sub>2</sub> using the oxyhemoglobin dissociation curve.
- 2.e. Utilize pulse oximetry correctly in a simulated setting.

### **3. Relate gas laws to respiratory function**

#### **Assessment Strategies**

- 3.1. by applying the appropriate gas law
- 3.2. given a situation
- 3.3. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

#### **Criteria**

*Your performance will be successful when:*

- 3.1. you solve gas law problems
- 3.2. you apply gas law problems to respiratory care patient situations.
- 3.3. you solve gas laws problems in relation to diffusion
- 3.4. you explore Dalton's alveolar gas law
- 3.5. you explain Fick's law of diffusion in relation to Henry and Graham's law
- 3.6. solution is complete
- 3.7. solution is correct and uses proper units

#### **Learning Objectives**

- 3.a. Explain Boyle's Law and it's influence on the normal mechanics of ventilation.
- 3.b. Explain Dalton's Law and it's relationship to barometric pressure.
- 3.c. Calculate the partial pressure of oxygen.

### **4. Examine the role of a respiratory therapist in healthcare**

#### **Assessment Strategies**

- 4.1. through an oral, written, or graphic examination
- 4.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

#### **Criteria**

*Your performance will be successful when:*

- 4.1. examination includes the job description
- 4.2. examination includes an evaluation of the Respiratory Therapist's scope of practice
- 4.3. examination includes the duties and responsibilities of a Respiratory Therapist
- 4.4. examination includes the role of the RT within the healthcare team
- 4.5. examination includes concentrations within RT

#### **Learning Objectives**

- 4.a. Summarize some of the major events in the history of respiratory care.
- 4.b. Define respiratory care.
- 4.c. Define disease management.
- 4.d. Describe evidence based medicine.
- 4.e. Explain how protocols enhance the quality of respiratory care services.

### **5. Explore legal and ethical issues related to respiratory care**

#### **Assessment Strategies**

- 5.1. by responding to legal and ethical scenarios and dilemmas in health care (format may be oral or written)
- 5.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

## Criteria

*Your performance will be successful when:*

- 5.1. response clearly states the dilemma in the scenario
- 5.2. response includes a course of action to resolve the dilemma
- 5.3. response course of action reflects competent practice within the legal/ethical framework of health care
- 5.4. response includes a defense of the course of action or give a rationale for the action
- 5.5. response is appropriate within the legal framework of respiratory therapy

## Learning Objectives

- 5.a. Describe the key components of the AARC code of ethics.
- 5.b. Differentiate professional malpractice and negligence.
- 5.c. Summarize the basic elements of HIPPA.
- 5.d. Explain how ethical principles are used to resolve ethical dilemmas.

## 6. Adapt communication strategies to a diverse patient population

### Assessment Strategies

- 6.1. through a role play between a respiratory therapist and a patient or by adapting strategies in a written assessment
- 6.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

## Criteria

*Performance will be successful when:*

- 6.1. you display verbal and nonverbal communication techniques appropriate to the population
- 6.2. you consider age, gender, cultural, etc. differences
- 6.3. you demonstrate the ability to change communication strategies in order to adapt to the situation
- 6.4. you adapt communication with patients and family members based on psychological issues including but not limited to grief and end of life care.

## Learning Objectives

- 6.a. State how communication can affect patient care.
- 6.b. Demonstrate how to communicate critical test values.
- 6.c. Describe methods used to enhance effective communication.

## 7. Review the medical record utilizing medical record keeping and charting methods consistent with hospital policy and procedures

### Assessment Strategies

- 7.1. given a patient chart
- 7.2. given a patient scenario
- 7.3. in an oral, written, or graphic response

## Criteria

*Your performance will be successful when:*

- 7.1. you select pertinent data for Respiratory Care practice
- 7.2. in a simulated patient , you identify appropriate documentation
- 7.3. you document consistent with hospital accreditation standards
- 7.4. you identify the components of a care plan

## Learning Objectives

- 7.a. Define the term medical record.
- 7.b. Provide examples of subjective and objective comments found in a medical record.
- 7.c. Describe each of the components of a typical history and physical report in a medical record.
- 7.d. Give examples of other information reviewed in the medical record including vital signs, progress notes, laboratory tests, imaging studies, and other diagnostic reports.

## 8. Utilize infection control principles

### Assessment Strategies

- 8.1. by demonstrating your skill in a lab or by evaluating scenarios

- 8.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

### Criteria

*Your performance will be successful when:*

- 8.1. you implement standard precautions
- 8.2. you will demonstrate proper isolation equipment application and removal without contamination.
- 8.3. you evaluate potential causes and methods of transmitting infection (e.g., contact, airborne, common vehicle, vector-borne)
- 8.4. you confine, contain or reduce the danger
- 8.5. you prevent cross contamination
- 8.6. you demonstrate the importance of Infection control procedures
- 8.7. you verbalize the financial and health impact of poor infection control to the health care facility

### Learning Objectives

- 8.a. Define health care associated infections.
- 8.b. Identify and describe the three elements that must be present for transmission of infection (source, route, host).
- 8.c. State the three major routes of infection transmission in healthcare.
- 8.d. Describe strategies to control transmission of disease in healthcare.
- 8.e. Differentiate sterilization and disinfection of respiratory care equipment.

## 9. Obtain a focused health history

### Assessment Strategies

- 9.1. in the classroom through a simulation or role-play
- 9.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

### Criteria

*Your performance will be successful when:*

- 9.1. you use effective verbal and non-verbal communication techniques
- 9.2. you provide privacy
- 9.3. you collect data using a designated format
- 9.4. you modify assessment technique to reflect variations across the lifespan
- 9.5. you modify assessment techniques to reflect ethnic, cultural and educational level variations
- 9.6. you document actions and observations

### Learning Objectives

- 9.a. Identify kinds of questions you can ask.
- 9.b. Identify psycho-social issues.
- 9.c. Describe why patient interviews are necessary and the appropriate techniques for conducting an interview.
- 9.d. Calculate predicted body weight.
- 9.e. Use predicted body weight to determine normal values for various lung volumes.
- 9.f. Calculate pack years of smoking and relate values to lung disease.

## 10. Evaluate patient data

### Assessment Strategies

- 10.1. given patient assessment data
- 10.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

### Criteria

*Your performance will be successful when:*

- 10.1. you make a recommendation for further testing
- 10.2. you will identify normal values and causes for abnormal values
- 10.3. you will utilize appropriate terminology in identifying patient data

### Learning Objectives

- 10.a. Describe what a critical value is and state its importance in healthcare.

- 10.b. State the components and normal values of a complete blood count.
- 10.c. Recognize and explain the terms leukocytosis, leukopenia, anemia, polycythemia, and thrombocytopenia.
- 10.d. Identify which electrolytes interfere with normal respiratory function.
- 10.e. Recognize the clinical tests used to identify myocardial injury and infarction.
- 10.f. Describe the sputum gram stain and culture.
- 10.g. Identify key findings in a chest x-ray.
- 10.h. Calculate PAO<sub>2</sub>, P(A-a)O<sub>2</sub>, a/A and relate findings to patient scenarios.
- 10.i. State normal values for arterial blood gases in the adult patient.

## 11. Perform a basic cardiovascular assessment

### Assessment Strategies

- 11.1. in the laboratory through a simulation or role-play
- 11.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

### Criteria

*Your performance will be successful when:*

- 11.1. you maintain privacy
- 11.2. you assess apical and peripheral pulses for rate, rhythm, and amplitude
- 11.3. you assess skin perfusion (color, temperature, and sensation)
- 11.4. you modify assessment techniques to reflect variations across the lifespan
- 11.5. you document actions and observations
- 11.6. you recognize and report significant deviations from norms
- 11.7. you explain causes for deviations from the norm.

### Learning Objectives

- 11.a. Describe the cardiac exam including normal and abnormal heart sounds.
- 11.b. Describe examination of the extremities including important alterations such as clubbing, capillary refill, color, jugular venous distention, and edema.
- 11.c. State the importance of a 12 lead EKG and situations in which it might be ordered.

## 12. Perform a respiratory assessment

### Assessment Strategies

- 12.1. in the classroom through a simulation or role-play
- 12.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

### Criteria

*Your performance will be successful when:*

- 12.1. you provide privacy
- 12.2. you assess chest and respiratory status using designated format
- 12.3. you differentiate between normal and abnormal lung sounds
- 12.4. you modify assessment techniques to reflect variations across the lifespan
- 12.5. you document actions and observations
- 12.6. you recognize and report deviations from norms
- 12.7. you explain reasons for deviations from the norm

### Learning Objectives

- 12.a. Summarize assessment of the patients general appearance.
- 12.b. Explain assessment of cyanosis.
- 12.c. Describe assessment of the patients mental status and level of consciousness.
- 12.d. Explain and perform complete examination of the thorax (inspection, palpation, percussion, auscultation) and the meaning of specific alterations in abnormal findings.
- 12.e. Summarize the examination of the head, eyes, ears, nose and throat (HEENT).
- 12.f. Identify the main structures of the thorax and the upper respiratory tract and describe their function.
- 12.g. Identify the lung lobes and segments.
- 12.h. Describe how and why airways produce and move mucus.
- 12.i. Identify abnormalities in lung function associated with common pulmonary symptoms.
- 12.j. Identify breathing patterns associated with underlying pulmonary disease.

### **13. Obtain vital signs**

#### **Assessment Strategies**

- 13.1. in a performance demonstration in the lab
- 13.2. by accurately answering questions about the concepts that support this competency in one or more written exams to be scheduled by your instructor at various points throughout this course

#### **Criteria**

*Your performance will be successful when:*

- 13.1. you perform blood pressure, pulse, respirations and temperature
- 13.2. you accurately record vital signs
- 13.3. you state the normal range of blood pressure, pulse, respirations and temperature for the adult
- 13.4. you note variants in range across the lifespan
- 13.5. you identify possible implications of abnormal vital signs and causes of abnormal vital signs

#### **Learning Objectives**

- 13.a. State the ranges for normal vital signs in adult patients.
- 13.b. Relate alterations in vital signs to common pathologies.
- 13.c. Correctly measure and record vitals signs in a simulated situation.

### **14. Communicate as a member of the interprofessional care management team**

#### **Assessment Strategies**

- 14.1. Oral, Written and/or Skill Assessment

#### **Criteria**

- 14.1. you select appropriate communication strategies
- 14.2. you accept feedback in a professional manner
- 14.3. you share feedback with the team
- 14.4. you adapt communication strategies for the situation