Florida Department of Education
Curriculum Framework

Program Title: **Respiratory Care**
Career Cluster: **Health Science**

AS	
CIP Number	1351090800
Program Type	College Credit
Standard Length	76 credit hours
CTSO	HOSA: Future Health Professionals
SOC Codes (all applicable)	29-1126 Respiratory Therapists
CTE Program Resources	http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml

Purpose

This program offers a sequence of courses that provides coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in the Health Science career cluster; provides technical skill proficiency, and includes competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of Health Science career cluster.

This program trains students for the occupation of Respiratory Therapist (SOC Code 29-1126) or to provide supplemental training for persons previously or currently employed in these occupations. The respiratory therapist specializes in the application of scientific knowledge and theory to practical, clinical problems of respiratory care.

The content includes but is not limited to quality control of all units, intermittent positive pressure breathing (IPPB); humidity/aerosol therapy; medical gas administration; broncho-pulmonary drainage; mechanical ventilation; airway management; emergency care; pulmonary function testing; cardiopulmonary rehabilitation; measurement and reporting of cardiopulmonary sampling, infection control; cardiopulmonary drug administration, physiologic monitoring, and special advanced procedures.

Additional Information relevant to this Career and Technical Education (CTE) program is provided at the end of this document.

Program Structure

This program is a planned sequence of instruction consisting of 76 credit hours.

Regulated Programs

Graduates of this program are eligible to take the NBRC (National Board of Respiratory Care) examination(s) and become licensed with the State of Florida Department of Health, Division of Quality Assurance.

Standards

After successfully completing this program, the student will be able to perform the following:

01.0 Recognize and practice safety and security procedures.
02.0 Recognize and practice infection control procedures.
03.0 Select, review, obtain and interpret data.
04.0 Select, assemble, and check equipment for proper function, operation and cleanliness.
05.0 Initiate, conduct, and modify prescribed therapeutic procedures.
06.0 Demonstrate knowledge of the health care delivery system, maintain records and communications.
07.0 Demonstrate legal and ethical responsibilities.
08.0 Demonstrate knowledge of employment requirements as a respiratory care professional.
09.0 Adapt appropriate respiratory care procedures to the home care environment.
10.0 Perform advanced respiratory care procedures.
11.0 Administer cardiopulmonary drugs.
12.0 Assist the physician with special respiratory therapy procedures.
13.0 Initiate and conduct patient and family education.

Florida Department of Education
Student Performance Standards

Program Title: **Respiratory Care**
CIP Number: **1351090800**
Program Length: **76 credit hours**
SOC Code(s): **29-1126**

Refer to Rule 6A-14.030 (4) F.A.C., for the minimum amount of general education coursework required in the Associate of Science (AS) degree. At the completion of this program, the student will be able to:	
01.0	Recognize and practice safety and security procedures. – The student will be able to:
01.01	Recognize safe and unsafe working conditions and report safety hazards.
01.02	Identify and describe methods in medical error reduction and prevention in the various healthcare settings.
01.03	Demonstrate personal safety procedures based on Occupations Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations including standard precautions.
01.04	Recognize Safety Data Sheets (SDS) and comply with safety signs, symbols and labels.
01.05	Demonstrate proper body mechanics and ergonomics.
01.06	Demonstrate the procedure for properly identifying patients.
01.07	Demonstrate procedures for the safe transport and transfer of patients.
01.08	Describe fire, safety, disaster and evacuation procedures.
02.0	Recognize and practice infection control procedures. – The student will be able to:
02.01	Define principles of infection control including standard and transmission based precautions.
02.02	Demonstrate knowledge of medical asepsis and practice procedures such as hand-washing and isolation.
02.03	Demonstrate knowledge of surgical asepsis.
02.04	Describe how to dispose correctly of biohazardous materials according to appropriate government guidelines such as OSHA.
02.05	Apply infection control techniques designed to prevent the spread of diseases caused by airborne and blood borne pathogens to the care of all patients following Centers for Disease Control (CDC) guidelines.
03.0	Select, review, obtain and interpret data. – The student will be able to:

	03.01 Review existing data in patient record, and recommend diagnostic procedures based on all available patient information. 03.01.01 Review existing data in patient record including imaging and laboratory studies 03.01.02 Recommend procedures to obtain additional data.
	03.02 Collect and evaluate additional pertinent clinical information. 03.02.01 Assess the patients overall cardiopulmonary status by inspection, percussion, palpation and auscultation. 03.02.02 To include laboratory and imaging studies.
	03.03 Perform procedures and interpret results. 03.03.01 Perform and/or interpret results of bedside procedures.
	03.04 Determine the appropriateness of the prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of the respiratory care plan with established guidelines. 03.04.01 Review planned therapy to establish therapeutic goals. 03.04.02 Determine appropriateness of prescribed therapy and goals for identified pathophysiological state. 03.04.03 Recommend changes in therapeutic plan (based on data) if indicated. 03.04.04 Participate in development of respiratory care plan.
04.0	Select, assemble, and check equipment for proper function, operation and cleanliness. – The student will be able to:

04.01 Select and obtain equipment, assure cleanliness of equipment, assemble, check for proper function, identity malfunctions of equipment, and take action to correct malfunctions of equipment appropriate to the respiratory care plan which includes the following:

- 04.01.01 Oxygen administration devices
- 04.01.02 High flow and heated high flow oxygen devices
- 04.01.03 Humidifiers.
- 04.01.04 Aerosol generators.
- 04.01.05 Ventilators; invasive and non-invasive.
- 04.01.06 Artificial airways.
- 04.01.07 Laryngeal mask and supraglottic airways
- 04.01.08 Suctioning devices.
- 04.01.09 Gas delivery, metering, and clinical analyzing devices.
- 04.01.10 Manometers and gauges.
- 04.01.11 Resuscitation devices.
- 04.01.12 Hyperinflation/lung expansion devices.
- 04.01.13 Patient breathing circuits.
- 04.01.14 Metered dose inhalers (MDI) and spacers.
- 04.01.15 Dry powder inhalers (DPI)
- 04.01.16 Airway Clearance devices/ bronchial hygiene
- 04.01.17 Specialty medical gases such as heliox.
- 04.01.18 Pleural drainage devices
- 04.01.19 Bronchoscopy Devices
- 04.01.20 Noninvasive monitoring equipment
- 04.01.21 Intubation equipment
- 04.01.22 Invasive monitoring equipment
- 04.01.23 Pulmonary Function Testing equipment

	04.02 Demonstrate a general knowledge of the following: 04.02.01 Bronchoalveolar lavage (BAL) and related devices 04.02.02 Specialty medical gasses such as nitric oxide
05.0	Initiate, conduct, and modify prescribed therapeutic procedures. – The student will be able to:
	05.01 Explain planned therapy and goals to patients; maintain records and communication; and protect patient from nosocomial infection. 05.01.01 Explain planned therapy and goals to patient in understandable terms to achieve optimal therapeutic outcome. 05.01.02 Maintain records and communication. 05.01.03 Protect patient from nosocomial infection by adherence to infection control policies and procedures (standard precautions, blood and body fluid precautions, etc.).
	05.02 Conduct therapeutic procedures to stabilize and maintain a patent airway, including the care of artificial airways; and removal of bronchopulmonary secretions. 05.02.01 Establish and maintain a patients' airway. 05.02.02 Perform removal of bronchopulmonary secretions. 05.02.03 Understand function and application of speaking valves.
	05.03 Conduct therapeutic procedures to achieve adequate spontaneous and artificial ventilation. 05.03.01 Instruct in proper breathing techniques. 05.03.02 Instruct and monitor techniques of Hyperinflation/lung expansion. 05.03.03 Instruct and monitor techniques of airway clearance devices. 05.03.04 Administer/assist with directed cough (quad cough/huff cough). 05.03.05 Administer prescribed aerosolized medications. 05.03.06 Select appropriate ventilator including both conventional and non- conventional (i.e. high frequency ventilation). 05.03.07 Select, initiate and adjust invasive ventilation device and properly manipulate settings based on patient response and data. 05.03.08 Select, initiate and adjust non-invasive ventilation device and properly manipulate settings based on patient response and data. 05.03.09 Manage liberation from mechanical ventilation. 05.03.10 Manage Withdrawal of life support. 05.03.11 Interpret invasive ventilator graphics and manipulate settings accordingly. 05.03.12 Interpret non-invasive ventilator graphics and manipulate settings accordingly. 05.03.13 Assist with the transport of a mechanically ventilated patient.
	05.04 Conduct therapeutic procedures to achieve adequate arterial and tissue oxygenation. 05.04.01 Position patient to minimize hypoxia. 05.04.02 Administer oxygen (on or off ventilator). 05.04.03 Prevent procedure-associated hypoxia (e.g. oxygenated before and after suctioning and equipment change, etc.). 05.04.04 Initiate and adjust CPAP/PEEP therapy. 05.04.05 Initiate lung recruitment maneuvers.

05.05 Evaluate and monitor patient's response to respiratory care through accurate interpretation of monitored data.
- 05.05.01 Measure and record vital signs.
- 05.05.02 Monitor cardiac rhythm.
- 05.05.03 Non-Invasive monitors
  - 05.05.03.1 Monitor pulse oximetry.
  - 05.05.03.2 Monitor capnography.
  - 05.05.03.3 Monitor Transcutaneous gas exchange
- 05.05.04 Auscultate chest and record changes.
- 05.05.05 Observe changes in sputum production and consistency.
- 05.05.06 Note patient's subjective response to therapy.
- 05.05.07 Measure FIO2 and or liter flow.
- 05.05.08 Perform Pulmonary Function Testing
  - 05.05.08.1 Bedside spirometry
  - 05.05.08.2 Peak flow
  - 05.05.08.3 6-minute walk
  - 05.05.08.4 FeNO measurement
  - 05.05.08.5 DLCO measurement
  - 05.05.08.6 Nitrogen washout
  - 05.05.08.7 Lung volumes and capacities
  - 05.05.08.8 MEP and MIP
- 05.05.09 Perform arterial puncture.
- 05.05.10 Interpret results of arterial blood gas analysis and co-oximetry.
- 05.05.11 Adjust and check alarm systems.
- 05.05.12 Note patient's response to mechanical ventilation.
- 05.05.13 Measure appropriate mechanical ventilation parameters.
- 05.05.14 Monitor endotracheal or tracheostomy tube cuff pressure.

05.06 Make necessary modifications in therapeutic procedures and recommend respiratory care plan modifications based on patient response.
- 05.06.01 Terminate treatment based on patient's adverse reaction to therapy being administered.
- 05.06.02 Modify bronchial hygiene/airway clearance.
- 05.06.03 Modify management of artificial airways.
- 05.06.04 Modify Hyperinflation/lung expansion devices.
- 05.06.05 Modify aerosol therapy.
- 05.06.06 Modify oxygen therapy.
- 05.06.07 Modify suctioning.
- 05.06.08 Modify mechanical ventilation.
- 05.06.09 Recommend modifications in the respiratory care plan based on the patient's response.

05.07 Initiate, conduct, or modify respiratory care techniques in an emergency setting as prescribed by the American Heart Association guidelines (www.heart.org).

05.08 Evaluate and respond to emergent loss of artificial airway.

	05.09 Demonstrate an understanding of special airway management situations, such as surgical alterations of the airway, and adjust response as appropriate.
	05.10 Utilize Evidence-Based Practice when classification of disease severity and implementing treatment plan. 05.10.01 ARDSNet – lung protective strategies 05.10.02 NAEPP 05.10.03 GOLD
06.0	Demonstrate knowledge of the health care delivery system, maintain records and communications. – The student will be able to:
	06.01 Describe the various types of healthcare providers.
	06.02 Identify the general roles and responsibilities of the individual members of the healthcare team.
	06.03 Use computer system to access and input patient data, when appropriate.
	06.04 Chart on medical record; record therapy and results using conventional terminology as required by hospital policy and regulatory agencies.
	06.05 Be familiar with and use departmental policy and procedure manual; actively participate in recommending updates.
	06.06 Consistently display a professional and positive attitude in all communications.
	06.07 Recognize the importance of courtesy and respect for patients and other healthcare workers and maintain good interpersonal relationships.
	06.08 Participate and communicate as part of the interdisciplinary team. 06.08.01 Demonstrate appropriate oral and written communication skills.
	06.09 Display respect for patients regardless of ethnicity, religion, cultural, creed, gender, sexual orientation, age, or diagnosis.
	06.10 Adapt communication skills to varied levels of understanding and cultural orientation including ethnicity, religion, cultural, creed, gender, sexual orientation, age, diagnosis, and preferred learning style.
	06.11 Maintain confidentiality of all patient records and information.
	06.12 Distinguish between and report subjective and objective information.
07.0	Demonstrate legal and ethical responsibilities. – The student will be able to:
	07.01 Explain practices that could result in malpractice, liability, negligence, abandonment, false imprisonment, and fraud.
	07.02 Explain the “Patient’s Bill of Rights”.
	07.03 Identify standards of the Health Insurance Portability and Accountability Act (HIPAA).
	07.04 Describe advance directives.
	07.05 Describe different forms of consent including implied, informed, and expressed.

	07.06	Recognize and report illegal and/or unethical practices of healthcare workers.
	07.07	Understand the proper laws and procedures for reporting suspected abuse and neglect n Florida.
08.0	Demonstrate knowledge of employment requirements as a respiratory care professional. – The student will be able to:	
	08.01	Identify the requirements to become licensed in Florida and maintenance of the license.
	08.02	Identify National Board of Respiratory Care credential maintenance and membership requirements to maintain credentials.
	08.03	Identify the Laws and Rules related to the Florida Respiratory Care Practice Act.
	08.04	Discuss patient safety goals and any other applicable accrediting/regulatory agency guidelines.
09.0	Adapt appropriate respiratory care procedures to the home care environment. – The student will be able to:	
	09.01	Provide for oxygen administration, aerosol and bronchial hygiene therapy and hyperinflation/lung expansion therapy in the home.
	09.02	Coordinate with the interdisciplinary team in arranging life support and monitoring (i.e. mechanical ventilation, apnea monitoring, nasal CPAP) in the home.
	09.03	Instruct patient, family and other healthcare workers on the appropriate use, operation, cleaning, and maintenance of respiratory care equipment.
	09.04	Perform patient monitoring and assessment in the home.
10.0	Perform advanced respiratory care procedures. – The student will be able to:	
	10.01	Assume primary clinical responsibility for all respiratory care modalities.
	10.02	Check physicians' orders or consult with physician.
	10.03	Design and implement respiratory care plan as appropriate.
	10.04	Perform noninvasive monitoring techniques as appropriate.
	10.05	Remove, clean and/or replace inner cannula tube and/or replace tracheostomy tube, as indicated.
	10.06	Perform various mathematical computations dealing with cardiopulmonary assessment.
	10.07	Evaluate and apply hemodynamic monitoring to enhance care of the patient.
	10.08	Perform intubation.
	10.09	Initiate mechanical ventilation with appropriate ventilator settings and parameters.
	10.10	Monitor return to normal physiology; reestablish airway/ventilation if necessary.

	10.11 Perform extubation and/or ventilator liberation.
	10.12 Monitor and assist in procedural sedation.
11.0	Administer cardiopulmonary drugs. – The student will be able to:
	11.01 Demonstrate knowledge of drug classifications, actions and uses, route of administration and usual adult doses, mathematics needed to calculate divided or children's dosage, contraindications, drug interactions, adverse reactions, how supplied, mixing instructions, storage, laboratory test interferences.
	11.02 Perform administration of medication following appropriate protocol and safe guidelines.
12.0	Assist the physician with special respiratory therapy procedures. – The student will have the knowledge of:
	12.01 Insertion and maintenance of an umbilical arterial and/or venous catheter.
	12.02 Thoracentesis, chest tube insertion, tracheostomy, intubation and cardioversion.
	12.03 Cardiopulmonary stress testing.
13.0	Initiate and conduct patient and family education. – The student will be able to:
	13.01 Demonstrate knowledge of smoking cessation products, techniques and programs.
	13.02 Educate the patient and family in relevant safety and infection control procedures and techniques.
	13.03 Educate the patient and family on the importance of pulmonary rehabilitation and their role.
	13.04 Educate the patient and family in disease management techniques for cardiopulmonary diseases.

Additional Information

Laboratory Activities

Laboratory investigations that include scientific inquiry, research, measurement, problem solving, emerging technologies, tools and equipment, as well as, experimental, quality, and safety procedures are an integral part of this career and technical program/course. Laboratory investigations benefit all students by developing an understanding of the complexity and ambiguity of empirical work, as well as the skills required to manage, operate, calibrate and troubleshoot equipment/tools used to make observations. Students understand measurement error; and have the skills to aggregate, interpret, and present the resulting data. Equipment and supplies should be provided to enhance hands-on experiences for students.

Special Notes

This program meets the Department of Health's education requirements for HIV/AIDS, Domestic Violence and Prevention of Medical Errors. Although not a requirement for initial licensure, it is a requirement for renewal, therefore the instructor may provide a certificate for renewal purposes to the student verifying these requirements have been met.

If students in this program are seeking a licensure, certificate or registration through the Department of Health, please refer to 456.0635 F.S. for more information on disqualification for a license, certificate, or registration through the Department of Health.

The respiratory therapist may be required to exercise considerable independent, clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Further, the therapist is capable of serving as a technical resource person to the physician with regard to current practices in respiratory care, and to the hospital staff as to effective and safe methods for administering respiratory therapy.

Outcomes 01-11 are referred to as the Health Careers Core and do not have to be completed if the student has previously completed the Core in another health science program. The CORE should be taken first or concurrently with the first course in the program. Following the successful completion of the core, the student is eligible to take the National Health Care Foundation Skill Standards Assessment with instructor approval and the completion of a portfolio.

Career and Technical Student Organization (CTSO)

HOSA: Future Health Professionals is the intercurricular career and technical student organization providing leadership training and reinforcing specific career and technical skills. Career and Technical Student Organizations provide activities for students as an integral part of the instruction offered.

Accommodations

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Postsecondary students with disabilities must self-identify, present documentation, request accommodations if needed, and develop a plan with their counselor and/or instructors. Accommodations received in postsecondary education may differ from those received in secondary education. Accommodations change the way the student is instructed. Students with disabilities may need accommodations in such areas as

instructional methods and materials, assignments and assessments, time demands and schedules, learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

Additional Resources

For additional information regarding articulation agreements, Bright Futures Scholarships, Fine Arts/Practical Arts Credit and Equivalent Mathematics and Equally Rigorous Science Courses please refer to:
http://www.fldoe.org/academics/career-adult-edu/career-tech-edu/program-resources.stml