

COURSE SYLLABUS

LAST REVIEW	Spring 2021
COURSE TITLE	Therapeutic Interventions I
COURSE NUMBER	RSCR 0224
DIVISION	Health Professions
DEPARTMENT	Respiratory Therapy
CIP CODE	51.0908
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	None
COURSE PLACEMENT	This course is part of a selective admission program. Students must be admitted to the Respiratory Therapy program to enroll in this course.

COURSE DESCRIPTION

Typically, the class includes Patient Assessment, Gas Physics, Oxygen Therapy, Microbiology applications and Pulmonary Hygiene. Students identify clinical applications of technical data, and review physiology effects of Respiratory Therapy. Students focus on therapeutic indications, contraindications, and hazards in this lecture/lab course.

PROGRAM ALIGNMENT

This course is part of a program aligned through the Kansas Board of Regents and Technical Education Authority. For more information, please visit:

https://kansasregents.org/workforce_development/program-alignment

PROGRAM LEARNING OUTCOMES

1. Formulate the knowledge and critical reasoning skills necessary to pass the National Board for Respiratory Care Therapist Multiple Choice Exam.
2. Execute the variety of assessment and intervention skills necessary to provide respiratory care in the clinical setting at the entry Registered Respiratory Therapist level.
3. Integrate professional behaviors necessary at the entry Registered Respiratory Therapist level.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom.

Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Patient Record
 - A. Admission data
 - B. Orders
 - C. Medications
 - D. Progress notes
 - E. DNR status/ advance directives
 - F. Social history

- II. Physical Assessment
 - A. General inspection, e.g., appearance, weight, mucus membranes, muscle wasting
 - B. Patient interview, e.g., chief complaint, symptoms, medical history, medications
 - C. Vital signs, e.g., HR, RR, B/P, body temperature
 - D. Signs of distress, e.g., cyanosis, diaphoresis, increased WOB, SOA, intercostal or sternal retractions, accessory muscle use

- III. Cardiopulmonary Systems Assessment
 - A. Cardiac assessment, e.g., heart sounds, pulse rhythm and force, ECG
 - B. Pulmonary assessment, e.g., pulse oximetry, breathing pattern, lung sounds, chest inspection chest palpation, chest percussion, diaphragmatic movement, cough evaluation, sputum evaluation, apnea monitoring, 6-Minute Walk Test, nocturnal oximetry, spirometry, PEFr
 - C. Chest X-Ray Assessment
 1. Consolidation
 2. Atelectasis
 3. Blunting of costophrenic angles
 4. Flattening of diaphragm
 5. Patency and size of major airways
 6. Tracheal deviation
 7. Mediastinal shift
 - D. Microbiology lab results, e.g., gram stain, culture, sensitivity

- IV. Care plans for medical gas, aerosol, and inflation therapy
 - A. Mobilization of secretions, e.g., humidity, aerosol, cough techniques
 - B. Gas distribution, e.g., position, sustained inspiration, optimal inspiratory flow

- C. Perfusion distribution, e.g., position
 - D. Relief of dyspnea, e.g., position, pace and pulse, oxygen
 - E. Oxygen prescription and titration
 - F. Alveolar ventilation and lung expansion
- V. Troubleshoot equipment for medical gas, aerosol, and inflation therapy
- A. Oxygen administration devices e.g., oxygen masks, cannulas, humidifiers
 - B. Aerosol administration devices e.g., aerosol masks, face shields, heaters, nebulizers
 - C. Gas delivery, metering, and clinical analyzing devices e.g., concentrators, air compressors, cylinders, regulators, blenders, liquid systems, flow meters
 - D. Lung expansion and secretion clearance devices e.g., IS, PAP, vibratory PEP
 - E. Utilize gas physics, e.g., Boyle's Law, Charles' Law, Dalton's Law, Gay-Lussac's Law
- VI. Basic Life Support
- A. Airway
 - B. Breathing
 - C. Circulation
- VII. Infection Control
- A. Handwashing
 - B. Microbiology specimen collection
 - C. Microorganism transmission, e.g., contact, airborne, vehicle, vector
 - D. Equipment processing, e.g., decontamination, disinfection, sterilization
 - E. Isolation techniques, e.g., universal precautions, respiratory isolation, body substance isolation, PPE
 - F. Nosocomial infection prevention
 - G. Differentiating viral/bacterial infections
 - H. Recall normal flora of upper/lower airway
 - I. Recall normal flora of GI tract
 - J. Managing effects of gram negative pneumonia
 - K. Introduction to antibiotic therapy

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Collect, evaluate and recommend clinical data from the patient record.
 - 1. Collect and evaluate admission data.
 - 2. Confirm physician orders.
 - 3. Review medications.
 - 4. Evaluate progress notes.
 - 5. Evaluate DNR status/advance directives.
 - 6. Evaluate social history.

- B. Collect, evaluate and recommend clinical data for physical assessment.
 - 7. Perform general inspection, e.g., appearance, weight, mucus membranes, muscle wasting.
 - 8. Collect patient interview data, e.g. chief complaint, symptoms, medical history, medications.
 - 9. Collect and evaluate vital signs, e.g., HR, RR, B/P, body temperature.
 - 10. Evaluate signs of distress, e.g. cyanosis, diaphoresis, increased WOB, SOA, intercostal or sternal retractions, accessory muscle use.

- C. Collect, evaluate and recommend clinical data for cardiopulmonary systems assessment.
 - 11. Evaluate cardiac assessment, e.g., heart sounds, pulse rhythm and force, ECG.
 - 12. Evaluate pulmonary assessment, e.g., pulse oximetry, breathing pattern, lung sounds, chest inspection chest palpitation, chest percussion, diaphragmatic movement, cough evaluation, sputum evaluation, apnea monitoring, 6-Minute Walk Test, nocturnal oximetry, spirometry, PEFr.
 - 13. Evaluate Chest X-Ray assessment for consolidation, atelectasis, blunting of costophrenic angles, flattening of diaphragm, patency and size of major airways, tracheal deviation, and mediastinal shift.
 - 14. Evaluate microbiology lab results, e.g., gram stain, culture, sensitivity.

- D. Recommend and modify care plans for medical gas, aerosol, and inflation therapy.
 - 15. Recommend mobilization of secretions, e.g., humidity, gas, aerosol, and inflation therapy.
 - 16. Recommend and modify care plans for gas distribution, e.g., position, sustained inspiration, optimal inspiratory flow.
 - 17. Recommend and modify care plans for perfusion distribution, e.g. position.
 - 18. Recommend and modify care plans for relief of dyspnea, e.g. position, pace and purse, oxygen.
 - 19. Recommend and modify care plans for oxygen prescription and titration.
 - 20. Recommend and modify care plans for alveolar ventilation and lung expansion.

- E. Recommend and troubleshoot equipment for medical gas, aerosol, and inflation therapy.
 - 21. Recommend and troubleshoot oxygen administration devices e.g., oxygen masks, cannulas, humidifiers.
 - 22. Recommend and troubleshoot aerosol administration devices e.g., aerosol masks, face shields, heaters, nebulizers.
 - 23. Recommend and troubleshoot equipment for gas delivery, metering, and clinical analyzing devices e.g., concentrators, air compressors, cylinders, regulators, blenders, liquid systems, flow meters.

24. Recommend and troubleshoot lung expansion and secretion clearance devices e.g. IS, PAP, vibratory PEP.
25. Utilize gas physics, e.g., Boyle's Law, Charles' Law, Gay-Lussac's Law.

F. Ensure basic life support.

26. Ensure an open airway.
27. Ensure breathing.
28. Ensure circulation.

G. Ensure infection control.

29. Ensure good handwashing technique.
30. Collect microbiology specimens.
31. Ensure infection control with microorganism transmission, e.g., contact, airborne, vehicle, vector.
32. Ensure infection control with equipment processing, e.g., decontamination, disinfection, sterilization.
33. Ensure infection control with isolation techniques, e.g., universal precautions, respiratory isolation, body substance isolation, PPE.
34. Ensure infection control with nosocomial infection prevention.
35. Ensure infection control with differentiation viral/bacterial infections.
36. Ensure infection control with the normal flora of upper/lower GI airway.
37. Ensure infection control with recalling normal flora of GI tract.
38. Ensure infection control with managing effects of gram-negative pneumonia.
39. Ensure infection control with introduction to antibiotic therapy.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.