



INSTRUCTIONAL PACKAGE

RES 111
Pathophysiology

Effective Term
Spring/2018

Instructional Package

PART I: COURSE INFORMATION

Effective Term: 2018

COURSE PREFIX: RES

COURSE TITLE: Pathophysiology

CONTACT HOURS: 2-0-2

RATIONALE FOR THE COURSE:

Upon completion of this course, students will be able to:

1. Identify and describe the components of the patient assessment.
2. Describe the pathophysiology, etiology, and clinical manifestations in common and atypical respiratory diseases.
3. Formulate the respiratory care treatment plans that are used for common pulmonary diseases.

COURSE DESCRIPTION:

This course is a study of the general principles and analyses of normal and diseased states.

PREREQUISITES:

General Education courses BIO 210, 211, 225, MAT 120, ENG 101, PSY 201, and HUM. Respiratory Care Program first semester courses RES 101, RES 121, RES 246, RES 152. *Required prerequisite courses must be completed with a grade of "C" or better.*

CO-REQUISITES: *None*

Required Textbooks and Materials

Des Jardins, T. and Burton, G.G. (2016). *Clinical Manifestations & Assessment of Respiratory Diseases*, 7th ed. Elsevier St. Louis, MO. ISBN# 978-0323-244794

Des Jardins, T. and Burton, G.G (2002). *Case Studies to Accompany Clinical Manifestations & Assessment of Respiratory Diseases*, 4th ed. Elsevier St. Louis, MO. ISBN# 978-0323-010757

Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks.

http://hortec.bncollege.com/webapp/wcs/stores/servlet/TBWizardView?catalogId=10001&lan_gld=-1&storeId=51560.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's student portal for course materials

- WaveNet and D2L email access

METHODS OF INSTRUCTION:

This course will be presented through lectures, discussions, audio-visual materials, class or laboratory projects, daily assignments, written projects, written reports, prepared speeches, library assignments, field trips, guest speakers, test, and quizzes.

CLASSROOM ETIQUETTE:

It is recognized that personal communication devices, including smart phones, can play a fundamental role in both education and urgent personal connections (for example, a school calling about a sick child). For this reason, use of such devices is permitted in the classroom, with specific reservations:

1. Please set all devices to 'silent' or 'vibrate' during instructional time.
2. Use of devices during testing is NOT allowed.
3. Please limit use of devices to urgent personal connections and educational purposes directly related to the course material being discussed.
4. If you receive an urgent text/call during class that requires immediate attention, please quietly excuse yourself from the classroom to respond to the call.
5. Please refrain from using 'ear buds' or continually using the device as a learning distraction. Professor retains the right to disallow the use of such devices should the policy become a distraction.
6. When on experiential rotations, students are expected to abide by the policies of that institution.

PLAGIARISM & CHEATING:

Refer to the College catalog & Student handbook (<http://www.hgtc.edu/documents/policys/Chapt9.pdf>). The student may be assigned a failing grade for the course, or may be required by the professor to withdraw from the course and/or the respiratory care program. Such actions are deemed to be unprofessional behavior within this program and will not be tolerated.

PART II: STUDENT LEARNING OUTCOMES

PROGRAM LEARNING OUTCOMES:

1. Perform in an ethical and professional manner during all aspects of clinical, classroom and, working environments. (Affective-Behavior)
2. Demonstrate knowledge and application of appropriate respiratory care in the clinical setting. (Cognitive-Knowledge)
3. Demonstrate proficiency in technical and clinical skills applicable for a Registered Respiratory Therapist. (Psychomotor-Skills)
4. Exhibit professional attitudes and behaviors appropriate for the Registered Respiratory Therapist. (Affective-Behavior)
5. Successfully pass credentialing examinations offered by the National Board of Respiratory Care (NBRC). (Cognitive)
6. Seek employment as Respiratory Care Therapists.

COURSE LEARNING OUTCOMES:

- Identify the components and meaning of the findings from a thorough patient assessment.
- Identify the elements and diagnosis of respiratory failure.
- Identify the etiology, pathophysiology, clinical features and treatment of the following disease states: Asthma, COPD, Cystic Fibrosis, Pulmonary Embolism, Heart Failure, Acute Respiratory Distress

Syndrome (ARDS), Chest Trauma, Atelectasis, Interstitial Lung Disease, Neuromuscular Diseases, Bacterial Pneumonia, Tuberculosis, Sleep Disorders, and Lung Cancer.

TOPICAL OUTLINE

- I. Patient Assessment (Physical exam, Interviewing techniques, laboratory testing, chest x-rays)
- II. Respiratory Failure
- III. Chronic Lung Diseases
- IV. Obstructive Airway Diseases and Infectious Pulmonary Diseases
- V. Heart Failure/Pulmonary Vascular Diseases/Hemodynamics/Pulmonary Thromboembolic disease/Heart Failure
- VI. Interstitial Lung Diseases (ILD)
- VII. Disorders of the Pleura and the Chest Wall
- VIII. Infectious Pulmonary Diseases
- IX. Chest and Pleural Trauma
- X. Neurologic Disorders and Sleep Apnea
- XI. Neoplastic Disease
- XII. Near Drowning/Post-op Atelectasis/Smoke Inhalation/Thermal Injuries

STUDENT LEARNING OUTCOMES

Module I

Material Covered: Patient Assessment

The Patient Interview Chapter 1

The Physical Examination and Its Basis in Physiology Chapter 2

Arterial Blood Gas Assessment Chapter 4

Oxygen Assessments Chapter 5

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Perform patient history, interview, techniques of communication, and closing the interview.
2. Obtain vital signs, systematic examination of the chest and lungs.
3. Describe the clinical manifestations observed during inspection.
4. Evaluate the sputum production, cough, and hemoptysis of a patient.
5. Differentiate blood gas findings.
6. Assessment of Hypoxia.

Module II

Material Covered: Respiratory Failure

Radiologic Examination of the Chest Chapter 7

Other Important Tests and Procedures Chapter 8

Assessments:

- HW
- Case Study

- Quiz
- Exam

Learning Outcomes:

1. Evaluate the hematology, blood, chemistry, and electrolyte findings, sputum examination, bronchoscopy, and percutaneous lung biopsy procedures.
2. Examine and inspection of chest radiograph and other radiologic techniques.

Module III

Material Covered: Chronic Lung Diseases

Respiratory Failure Chapter 10

Chronic Obstructive Pulmonary Diseases (COPD): Chronic Bronchitis and Emphysema Chapter 12

Asthma Chapter 13

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Determine the etiology and pathogenesis of Respiratory Failure.
2. Review the process of how deterioration despite intensive respiratory care.
3. Review of the cardiopulmonary clinical manifestations associated with acute respiratory failure.
4. Interpret respiratory failure case studies.
5. Distinguish among the anatomic alterations of the lungs.
6. Identify etiology of chronic lung diseases bronchitis, emphysema, and asthma.
7. Describe how to manage chronic lung diseases bronchitis, emphysema, and asthma.
8. Interpretation of chronic obstructive pulmonary diseases case studies.

Module IV

Material Covered: Obstructive Airway Diseases and Infectious Pulmonary Diseases

Bronchiectasis Chapter 14

Cystic Fibrosis Chapter 15

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Distinguish among the anatomic alterations of the lungs.
2. Describe how to manage cystic fibrosis and bronchiectasis.
3. Interpretation of cystic fibrosis and bronchiectasis case study.

Module V

Material Covered: Heart Failure/Pulmonary Vascular Diseases/Hemodynamics/Pulmonary Thromboembolic disease

Cardiovascular System Assessments Chapter 6

Pulmonary Edema Chapter 20

Pulmonary Embolism and Infarction Chapter 21

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Review of normal and abnormal heart sounds.
2. Identify common heart arrhythmias.
3. Review noninvasive and invasive hemodynamic monitoring assessments.
4. Identify the determinants of cardiac output.
5. Review the anatomic alterations of the lungs for the following respiratory diseases: pulmonary edema, pulmonary embolism and infarction, pleural effusions, and kyphoscoliosis
6. Overview of the cardiopulmonary clinical manifestations associated with pulmonary edema, pulmonary embolism and infarction, pleural effusions, and kyphoscoliosis.
7. Define the general management of pulmonary edema, pulmonary embolism and infarction, pleural effusions, and kyphoscoliosis.
8. Interpretation of pulmonary edema, pulmonary embolism and infarction, pleural effusions, and kyphoscoliosis case studies.

Module VI

Material Covered: Interstitial Lung Diseases (ILD)

Interstitial Lung Diseases: Sarcoidosis and Pulmonary Fibrosis Chapter 26

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Review the anatomic alterations of the lungs for the following respiratory diseases: sarcoidosis and pulmonary fibrosis.
2. Identify the etiology, pathophysiology, clinical features and treatment of the following disease states: sarcoidosis and pulmonary fibrosis.
3. Interpretation of sarcoidosis and pulmonary fibrosis case studies.

Module VII

Material Covered Disorders of the Pleura and of the Chest Wall

Pleural Effusion and Empyema Chapter 24

Kyphoscoliosis Chapter 25

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Review the anatomic alterations of the lungs for the following respiratory diseases: pleural effusions, empyema, and kyphoscoliosis
2. Overview of the cardiopulmonary clinical manifestations associated with pleural effusions, empyema, and kyphoscoliosis.
3. Review the general management of pleural effusions, empyema, and kyphoscoliosis
4. Interpretation of pleural effusions, empyema, and kyphoscoliosis case studies.

Module VIII

Material Covered: Infectious Pulmonary Diseases

Pneumonia Chapter 16

Lung Abscess Chapter 17

Tuberculosis Chapter 18

Fungal Diseases of the Lung Chapter 19

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Identify the etiology, pathophysiology, clinical features and treatment of the following disease states: pneumonia, lung abscess, tuberculosis, and fungal diseases of the lung.
2. Interpretation of pneumonia, lung abscess, tuberculosis, and fungal diseases of the lung case studies.

Module IX

Material Covered: Chest and Pleural Trauma

Flail Chest Chapter 22

Pneumothorax Chapter 23

Acute Respiratory Distress Syndrome Chapter 28

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Identify the etiology, pathophysiology, clinical features and treatment of the following disease states: Flail Chest, Pneumothorax, Acute Respiratory Distress Syndrome, and Interstitial Lung Disease.
2. Interpretation of Flail Chest, Pneumothorax, Acute Respiratory Distress Syndrome, and Interstitial Lung Disease case studies.

Module X

Material Covered: Neurologic Disorders and Sleep Apnea

Guillain-Barre Syndrome Chapter 29

Myasthenia Gravis Chapter 30

Sleep Apnea Chapter 31

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Identify the etiology, pathophysiology, clinical features and treatment of the following disease states: Guillain-Barre syndrome, myasthenia gravis, and sleep apnea.
2. Interpretation of Guillain-Barre syndrome, myasthenia gravis, and sleep apnea case studies.

Module XI

Material Covered: Neoplastic Disease

Cancer of the Lung Chapter 27

Congestive Heart Disease Chapter 24

Myocardial Infarction

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Identify the etiology, pathophysiology, clinical features and treatment of cancers of the lungs.
2. Interpretation of cancers of the lungs case studies.
3. Identify the etiology, pathophysiology, clinical features and treatment of congestive heart failure and myocardial infarction.
4. Interpretation of congestive heart failure and myocardial infarction case studies.

Module XII

Material Covered:

Near Drowning Chapter 42

Smoke Inhalation and Thermal Injuries Chapter 43

Miscellaneous Post-operative Complications Atelectasis Chapter 44

Assessments:

- HW
- Case Study
- Quiz
- Exam

Learning Outcomes:

1. Identify the etiology, pathophysiology, clinical features and treatment of near drowning, smoke inhalation and thermal injuries, and miscellaneous post-operative complications atelectasis.
2. Interpretation of near drowning, smoke inhalation and thermal injuries, and miscellaneous post-operative complications atelectasis case studies.

PART III: GRADING AND ASSESSMENT

EVALUATION OF REQUIRED COURSE MEASURES

Students' performance will be assessed and the weight associated with the various measures are listed below.

Evaluation

HW Assignments - 20%

Case Study - 25%

Quizzes - 30%

Exams - 25%

Total 100%

**Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.*

GRADING SYSTEM:

Purpose:

To provide information to each student concerning the calculation of grades and to assure consistency and fairness in assigning grades. The Respiratory Care Program grading policy is different than the HGTC grading policy.

Policy:

1. A grade of "C" or better must be achieved in all required respiratory care program courses in order for a student to progress through the program. A final grade of less than 75 is not passing in the Respiratory Care Program and does not meet the requirements for progression within the program.

GRADING SCALE:

100-90 = A

89-80 = B

79-75 = C

74-69 = D

68 - 0 = F

2. Each student must demonstrate safety and competence in required laboratory skill check assessments and laboratory competency practical examinations. Each course with a laboratory component includes skill check assessments that must be mastered within the course.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and also negatively impacts academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Please refer to the academic calendar for deadlines for add/drop (<http://www.hgtc.edu/academics/academiccalendars.html>). You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

EVALUATION OF REQUIRED COURSE ASSIGNMENTS

Students' performance will be assessed and the weight associated with the various measures are listed below:

LATE ASSIGNMENTS:

1. A maximum of one (1) scheduled exam may be made up at the discretion of the course instructor. Any subsequently missed exams will receive a grade of 0.

2. Makeup examinations will be taken in the testing center on campus or a location designated by the instructor.
3. A 10% overall deduction will be applied to the makeup examination score for missed examinations unless faculty are notified in advance (more than 12 hours) or medical documentation is provided.
4. Late homework assignments will have a deduction of ten points of the total assignment grade.
5. Homework assignments will not be accepted after 5 days of the due date.

PART IV: ATTENDANCE

ATTENDANCE

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of eighty percent (80%) of his or her classes in order to be eligible to receive credit for any course. At a minimum, a student may be withdrawn from a course(s) after he or she has been absent in excess of ten percent (10%) of the total contact hours for a course.

Attendance for Face-to-Face Courses:

Students are expected to attend a minimum of 80% of all classes and 100% of all clinical/lab hours/days per Respiratory Care course per semester.

After the allowed number of absences, the student will be dropped from the course with a W or a WF. There are no excused absences.

An absence is defined as missing greater than 10 minutes of classroom time or leaving class early with more than 10 minutes remaining.

Classroom Tardy:

A classroom tardy is defined as missing up to 10 minutes of classroom time.

Three tardies will be counted as one (1) class absence.

PART V: STUDENT RESOURCES

The Student Success and Tutoring Center (SSTC)

The SSTC offers to all students the following **free** resources:

1. **Academic coaches** for most subject areas, **Writing Center Support**, and **college success skills**.



2. **On-line student success and academic support resources.** Visit the SSTC website: www.hgtc.edu/sstc and visit the student services tab in your WaveNet account to schedule appointments using TutorTrac. For more information, call: SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455. Room locations and Live Chat is available on the SSTC website.

Student Information Center: WaveNet Central (WNC)

WNC offers to all students the following **free** resources:

1. **Getting around HGTC:** General information and guidance for enrollment!
2. Use the [Online Resource Center \(ORC\)](#) for COMPASS support, technology education, and online tools.



3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.
5. Visit the WNC website: www.hgtc.edu/wavenetcentral. Live Chat and Center locations are posted on the website. Or please call one of the following locations: WNC Conway, 349-5182; WNC Grand Strand, 477-2076; and WNC Georgetown, 520-1473.

Disability Services:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to Jocelyn Williams, Director of Student Development on the Conway Campus Jaime Davis, Counselor/Advisor on the Georgetown Campus or Jim Ratliff, Counselor on the Grand Strand Campus. These individuals will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided.

Title IX Requirements

The South Carolina Technical College System does not discriminate on the basis of race, color, gender, national or ethnic origin, age, religion, disability, marital status, veteran status, sexual orientation, gender identity, or pregnancy in educational programs and activities as required by Title IX. As outlined in the Violence Against Women Act, Horry Georgetown Technical College prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking. Students who believe he or she has experienced or witnessed discrimination including sexual harassment, domestic violence, dating violence, sexual assault or stalking are encouraged to report such incidents to the Title IX Coordinators:

Dr. Melissa Batten, AVP of Student Affairs
Building 1100, Room 107A, Conway Campus
843-349-5228

[Melissa Batten](#)

Jacquelyne Barrett, AVP of Human Resources
Building 200, Room 212A, Conway Campus
843-349-5212

[Jacquelyne Barrett](#)

*Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).