Cisco College  
Abilene Educational Center  
RSPT 1141 Respiratory Home Care/ Rehabilitation  
Spring Semester Second Year

INSTRUCTOR: Jeff Lawrence, MS, RRT, RCP

OFFICES: Cisco College Office # 40

TELEPHONE: 794-4507

jeff.lawrence@cisco.edu

OFFICE HOURS: Variable, by appointment only

COURSE DESCRIPTION:

A study of home care/rehabilitation equipment, procedures, and patient care. Emphasizes treatment of patients in homecare and alternate settings.

TIME ALLOTMENT: Spring Semester Credit: 1 semester hours

Lecture Hours: 1 Experience Hours: 0

Prerequisites: RSPT 2210  
Co- Requisite: RSPT 2305

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:

The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Committee on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:

- Select, manage, troubleshoot, and modify therapeutic modalities for home care/rehabilitation patients.
- Identify appropriate equipment; and discuss appropriate assessment, treatment, and documentation
cOURSE OBJECTIVES:

The following list of course goals will be addressed in the course.

1. describe essentials, patient selection, equipment, monitoring and problems with a home care program
2. describe the technique, indications, advantages, and complications of transtracheal Oxygen
3. describe the when, where and why essentials of a pulmonary rehab program
4. describe what is considered fitness for a C.O.P.D. patient
5. describe the various training techniques used in a pulmonary rehab program
6. describe the role of the RCP in a Home Care Program
7. describe the key elements involved with the Home Visit
8. describe the signs/symptoms and management strategies to review with the Home Care Patient
9. describe the respiratory care procedures commonly taught by the home care RCP
10. describe the advantages and disadvantages of Liquid Oxygen Systems
11. describe the advantages and disadvantages of Oxygen Concentrations
12. describe the use and advantage of different types of Oxygen Conserving Devices
13. describe the proper use of the Home Oxygen Equipment
14. describe and discuss Aerosol Therapy/spacers & chambers
15. describe the advantages and disadvantages of different types of noninvasive home MV (NPPV, CPAP)
16. describe the devices used in home diagnostics and patient monitoring
17. describe the role of the RCP in Pediatric Home Care
18. describe the types of home care equipment used for the pediatric patient and/or home monitoring devices, to include discontinuing apnea monitoring.
19. describe who is at risk for infection, common sites of infection, and transmission of pathogens; prevention of infection.
20. identify occupational hazards, risks and appropriate precautions to protect caregivers
21. identify benefits for Home Care Patients
22. describe the definition of Pulmonary Rehabilitation
23. describe exercise testing for pulmonary rehab. candidates
24. describe the six minute walk
25. describe titration of CPAP or BiPAP during sleep
26. describe overnight pulse oximetry
27. describe cardiopulmonary exercise testing
28. describe the role of a therapist during intra-hospital transport, land/air transport
29. describe the therapist role in a smoke cessation program
COURSE STRUCTURE:

This course will meet on Monday 8:00am – 10:00am

EXIT COMPETENCIES:

Upon completion of this course the student will have these skills:

1. Use appropriate terminology related to various respiratory therapy equipment used in the treatment of cardiopulmonary diseases.
2. Demonstrate the ability to interact appropriately and professionally with patients, patient’s family members and other health care team members.
3. Demonstrate knowledge of patient medical record.
4. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and team work principles when performing the role of the respiratory care practitioner.
5. Explain the mode of action, clinical indications, dosages, hazards, and side effects of pulmonary and cardiovascular drugs.
6. Demonstrate the ability to critically analyze and apply the appropriate signs and symptoms associated with the cardiopulmonary diseases.
7. Demonstrate proficiency through critical analysis and application of diagnostic procedures, tests, and collection of patient data.

COURSE TEXT:

Scanlan, Egan’s Fundamentals of Respiratory Care, 10th edition
Mosby’s, 9th Edition Respiratory Care Equipment
Lecture notes and assigned reading

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:

The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any additional resources, including the Internet, which can be accessed in the computer lab in room # 157 and the professional journals in the Library, Rooms, 123 and 129. Students can also access CC library by logging on to the web site at www.cisco.edu

EVALUATION METHODS, INCLUDING GRADING:

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

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Full attendance is expected of Respiratory Care students in their course of study and attendance will be taken daily.

POLICY ON SUBMISSION OF PROJECTS:

The projects must be completed according to the established guidelines and must be submitted on time.

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ACADEMIC INCIVILITY
Disregard and insolence for others, causing an atmosphere of disrespect, conflict, and stress. Rude, discourteous speech or behavior that disrupts the academic environment
Behaviors range from misuse of cell phones, to rude and sarcastic comments, to threats or actual acts of physical harm

CHANGES TO THE SYLLABUS:
The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

STUDENTS WITH SPECIAL NEEDS:
Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.

Revisions 1/2016
TECHNOLOGY INTEGRATION

Respiratory care courses involve the use technology in various forms including computerized training software and simulations students are required to complete. All courses involve internet based research assignments. Various courses require at least one research paper using basic computer word processing skills such as Microsoft Word. (*Refer to evaluation methods on syllabi to see if research papers are required.*) Please see your instructor if you require assistance in the use of computers and internet, or if you need special accommodations to aid you in using our computers.

SCANS Competencies: A description of all SCANS Competencies is attached.

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<td><strong>1.3</strong> Manages Material and Facility Resources: Acquires appropriate supplies and equipment to demonstrate objectives</td>
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<td><strong>3.3</strong> Uses Computers to Process Information: Uses computers to acquire, organize, and analyze measurements collected.</td>
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<td><strong>7.2</strong> Decision Making: Considers risks and chooses the appropriate therapy device and timing of treatment. <strong>7.3</strong> Problem Solving: Through case studies; identifies problems that exist, reasons for discrepancies, and implements plan of action for resolution of the problem. <strong>7.4</strong> Mental Visualization: Organizes and processes numerical measurements or graphs of oxygen concentration obtained from patients. <strong>7.5</strong> Knowing How to Learn: Recognizes and applies learning techniques that adapt new knowledge and skills in both familiar and</td>
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<td><strong>8.1 Responsibility:</strong></td>
<td>Displays high standards of attendance and punctuality during clinical rotation.</td>
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<td>8.2 Self Esteem:</td>
<td>Leaves course with confidence in the ability to communicate with coworkers and patients,</td>
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<td>8.3 Sociability:</td>
<td>Understands the importance of friendliness, empathy, and politeness to patients they encounter in a clinical setting.</td>
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<td>8.4 Self Management:</td>
<td>Manages time effectively. Responds positively to feedback from constructive advise during clinical rotation.</td>
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<td>8.5 Integrity/Honesty:</td>
<td>Exhibits professional behavior and understands the impact of what could happen to the student or patient when healthcare codes are violated.</td>
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**SCANS COMPETENCIES**

**SCANS COMPETENCIES WITH DEFINITIONS**

1.0 RESOURCES

- 1.1 **Manages Time:** Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
• 1.2 **Manages Money:** Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.

• 1.3 **Manages Materials and Facility Resources:** Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.

• 1.4 **Manages Human Resources:** Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

2.0 **INTERPERSONAL**

• 2.1 **Participates as a Member of a Team:** Works cooperatively with others and contributes to group with ideas, suggestions, and effort.

• 2.2 **Teaches Others:** Helps others to learn.

• 2.3 **Serves Clients/Customers:** Works and communicates with clients and customers to satisfy their expectations.

• 2.4 **Exercises Leadership:** Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups; including responsibility challenging existing procedures, policies, or authority.

• 2.5 **Negotiates:** Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.

• 2.6 **Works with Cultural Diversity:** Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

3.0 **INFORMATION**

• 3.1 **Acquires and Evaluates Information:** Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy.

• 3.2 **Organizes and Maintains Information:** Organizes, processes, and maintains written or computerized reports an other forms of information in a systematic fashion.

• 3.3 **Uses Computers to Process Information:** Employs computers to acquire, organize, analyze, and communicate information.

4.0 **SYSTEMS**

• 4.1 **Understands Systems:** Knows how social, organizational, and technological systems work and operates effectively within them.

• 4.2 **Monitors and Corrects Performance:** Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.

• 4.3 **Improves and Designs Systems:** Makes suggestions to modify existing systems to improve products or services, and develops new or alternative systems.

5.0 **TECHNOLOGY**

• 5.1 **Selects Technology:** Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.
• 5.2 Applies Technology to Task: Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.

• 5.3 Maintains and Troubleshoots Technology: Prevents, identifies, or solves problems in machines, computers and other technologies.

SCANS FOUNDATION SKILLS

6.0 BASIC SKILLS

• 6.1 Reading: Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications: infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.

• 6.2 Writing: Communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject-matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.

• 6.3 Arithmetic: Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

• 6.4 Mathematics: Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

• 6.5 Listening: Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn, to critically evaluate; to appreciate, or to support the speaker.

• 6.6 Speaking: Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

7.0 THINKING SKILLS

• Creative Thinking: Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.
7.2 **Decision Making:** Specifies goals and constraints, generates alternatives, considers risks and evaluates and chooses best alternatives.

7.3 **Problem Solving:** Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.

7.4 **Mental Visualization:** Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.

7.5 **Knowing How To Learn:** Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

7.6 **Reasoning:** Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

8.0 **PERSONAL QUALITIES**

8.1 **Responsibility:** Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

8.2 **Self-Esteem:** Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.

8.3 **Sociability:** Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

8.4 **Self-Management** Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals, monitors progress goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and non-defensively, is a “self-starter.”

8.5 **Integrity/Honesty:** Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.
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OFFICE HOURS:  Variable, by appointment only

COURSE DESCRIPTION:  Provide an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

TIME ALLOTMENT:  Spring Semester  Credit: 2 semester hours
Lecture Hour: 1hr 45 min  Experience Hours: 0

CO-REQUISITES: RSPT 1331, RSPT 2210, RSPT 1361

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:

The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Committee on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:

- Explain advanced concepts of cardiopulmonary anatomy and physiology: *A review from RSPT 1207*
- Explain the physical properties of the lung and airways as it relates to pulmonary diseases
- Acid-Base regulation and kidney function
- Describe the anatomy and physiology of the renal system and its effects on the cardiopulmonary system.
- Describe the principles of hemodynamic measurements as it relates to cardiopulmonary pathology
- Describe the electrophysiology of the cardiac muscle

COURSE OBJECTIVES:  The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives.
I. Develop a basic knowledge of the anatomical and functional structures associated with the cardiopulmonary and renal system to include:
   A. Pulmonary vascular system and hemodynamic changes as it relates to cardiopulmonary diseases.
   B. Cause and effect of acid-bases disturbances on homeostasis.
   C. Renal function and control of electrolytes and waste products
   D. Symptoms of abnormal hemodynamic, what disease process they suggest and recommended treatment.

II. Develop a basic knowledge of:
   A. The role of a sleep disorder specialist in polysomnography and sleep disorders diagnoses.
   B. The medical properties of hyperbaric medicine and the role of a hyperbaric- medicine specialist

COURSE STRUCTURE: Meet Tuesday and Thursday 8:00am to 9:45am

EXIT COMPETENCIES:

Upon completion of this course the student will have these skills:
1. Use appropriate terminology related to the cardiovascular and pulmonary system.
2. Demonstrate the ability to interact appropriately and professionally with patients, patient’s family members and other health care team members.
3. Demonstrate knowledge of patient medical record and its application to the cardiovascular and pulmonary system.
4. Explain the mechanics of cardiac function and pathology that interferes with normal hemodynamics.
5. Demonstrate the ability to critically analyze, interpretation and apply the principles of acid-base balance.
6. Demonstrate proficiency and knowledge of oxygen delivery to the tissues and carbon dioxide transport to the lungs of adult and premature newborn patients.
7. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and team work principles when performing the role of the respiratory care practitioner.
8. Demonstrate proficiency and knowledge of the electrophysiology of the heart.
9. Demonstrate proficiency and knowledge to the importance of renal function and its affect on the Cardiopulmonary System.
10. Demonstrate proficiency and knowledge of hemodynamic measurements and clinical application.

COURSE TEXT: Terry Des Jardins, Cardiopulmonary Anatomy & Physiology, 6th edition
Egan’s Fundamentals of Respiratory Care, 9th edition
RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:

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In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit toward graduation from the Respiratory Care Program.

- Major unit exams: 40%
- Quiz: 25%
- Final exam: 35%

*Students who fail to complete the assigned computer programs will not be permitted to attempt the final course exam.*

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<td><strong>6.5 Listening:</strong> Student will listen to preceptor and patient to understand both verbal and nonverbal communication. Student will critically analyze information presented during rotation for clarity and accuracy.</td>
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<td><strong>6.6 Speaking:</strong> Organizes ideas for selections of treatment and communicates thoughts orally to preceptor.</td>
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<td><strong>7.6 Reasoning:</strong> Understands the relationship between the different forms of treatment and devices and apply them to principles in new situations and determines the best outcome.</td>
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### Personal Qualities

| **8.1 Responsibility:** Displays high standards of attendance and punctuality during clinical rotation. |
| **8.2 Self Esteem:** Leaves course with confidence in the ability to communicate with coworkers and patients, |
| **8.3 Sociability:** Understands the importance of friendliness, empathy, and politeness to patients they encounter in a clinical setting. |
| **8.4 Self Management:** Manages time effectively. Responds positively to feedback from constructive advise during clinical rotation. |
| **8.5 Integrity/Honesty:** Exhibits professional behavior and understands the impact of what could happen to the student or patient when healthcare codes are violated. |
SCANS COMPETENCIES WITH DEFINITIONS

1.0 RESOURCES
- 1.1 Manages Time: Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- 1.2 Manages Money: Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
- 1.3 Manages Materials and Facility Resources: Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
- 1.4 Manages Human Resources: Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

2.0 INTERPERSONAL
- 2.1 Participates as a Member of a Team: Works cooperatively with others and contributes to group with ideas, suggestions, and effort.
- 2.2 Teaches Others: Helps others to learn.
- 2.3 Serves Clients/Customers: Works and communicates with clients and customers to satisfy their expectations.
- 2.4 Exercises Leadership: Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups; including responsibility challenging existing procedures, policies, or authority.
- 2.5 Negotiates: Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.
- 2.6 Works with Cultural Diversity: Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

3.0 INFORMATION
- 3.1 Acquires and Evaluates Information: Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy.
- 3.2 Organizes and Maintains Information: Organizes, processes, and maintains written or computerized reports and other forms of information in a systematic fashion.
- 3.3 Uses Computers to Process Information: Employs computers to acquire, organize, analyze, and communicate information.

4.0 SYSTEMS
- 4.1 Understands Systems: Knows how social, organizational, and technological systems work and operates effectively within them.
- 4.2 Monitors and Corrects Performance: Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.
• 4.3 **Improves and Designs Systems**: Makes suggestions to modify existing systems to improve products or services, and develops new or alternative systems.

5.0 TECHNOLOGY

• 5.1 **Selects Technology**: Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.

• 5.2 **Applies Technology to Task**: Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.

• 5.3 **Maintains and Troubleshoots Technology**: Prevents, identifies, or solves problems in machines, computers and other technologies.

SCANS FOUNDATION SKILLS

6.0 BASIC SKILLS

• 6.1 **Reading**: Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications: infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.

• 6.2 **Writing**: Communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject-matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.

• 6.3 **Arithmetic**: Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

• 6.4 **Mathematics**: Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

• 6.5 **Listening**: Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn, to critically evaluate; to appreciate, or to support the speaker.

• 6.6 **Speaking**: Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and
the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

7.0 THINKING SKILLS

- **Creative Thinking:** Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.
- **7.2 Decision Making:** Specifies goals and constraints, generates alternatives, considers risks and evaluates and chooses best alternatives.
- **7.3 Problem Solving:** Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.
- **7.4 Mental Visualization:** Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.
- **7.5 Knowing How To Learn:** Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).
- **7.6 Reasoning:** Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

8.0 PERSONAL QUALITIES

- **8.1 Responsibility:** Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.
- **8.2 Self-Esteem:** Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.
- **8.3 Sociability:** Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.
- **8.4 Self-Management** Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals, monitors progress goal attainment and motivates self
through goal achievement; exhibits self-control and responds to feedback unemotionally and non-defensively, is a “self-starter.”

- **8.5 Integrity/Honesty:** Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.
Cisco College  
Abilene Educational Center  
RSPT 1331 Respiratory Care Fundamentals II  
Spring 2016

INSTRUCTOR:  
Melody Cusson, MA, M.Ed., RRT, RCP  
Jeff Lawrence, MS, RRT, RCP  
Tracy Talley, BSRC, RRT, RCP

OFFICES:  
Melody:  AEC Office # 39  
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OFFICE HOURS:  Variable, By Appointment Only

COURSE DESCRIPTION:  
This course provides a continuation of knowledge and skills for respiratory care including lung expansion therapy, postural drainage and percussion, artificial airways, manual resuscitation devices suctioning, pulse oximetry, bedside spirometry, arterial sampling techniques, blood gas analysis, blood gas and laboratory interpretation. Laboratory fee charged.

TIME ALLOTMENT:  
Semester: Spring  
Credit:  3 semester hours  
Lecture Hours: 3  
Clinical/Laboratory hours: 3

PRE-REQUISITES:  RSPT 1329, RSPT 1160, RSPT 1201

PURPOSE AND LEARNING OUTCOMES OF THIS COURSE:  
This course provides the knowledge for the student to select, review, obtain, and interpret date in selected respiratory care patient settings.  
The learner will:

- Select, assemble and check equipment for proper function, operation and cleanliness
- Identify equipment malfunctions,
- Maintain patient records
- Perform hygiene therapy
- Perform lung expansion therapy
- Describe and perform patient positioning for postural drainage and percussion.
- Identify normal and abnormal chest x-ray
- Describe and perform arterial blood gas sampling, analysis and interpretation
- Identify artificial airways and perform suctioning,
- Describe how to perform an electrocardiogram (ECG)
- Describe the electrophysiology of cardiac cells
- Demonstrate how to perform an electrocardiogram (ECG)
- Interpret pulse oximetry
- Obtain bedside spirometry

COURSE OBJECTIVES:
The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives.

1. List causes of various types of atelectasis
2. Identify who needs lung expansion therapy
3. Identify the clinical findings of atelectasis
4. Describe the theoretical basis of lung expansion therapy
5. Describe indications, hazards, and complications of lung expansion therapy
6. Describe the primary responsibilities of the RCP when delivering lung expansion therapy
7. Describe the planning, implementation, follow up and evaluation of lung expansion therapy
8. Describe how to assess the need for and select an artificial airway
9. List the complications and hazards associated with insertion of artificial airways
10. Demonstrate how to perform orotracheal and nasotracheal adult intubation
11. Describe how to assess and confirm proper endotracheal tube placement
12. Describe how and why to perform a tracheotomy
13. Describe the types of damage caused by artificial airways
14. Describe how to properly maintain and troubleshoot artificial airways
15. Describe how to measure and adjust tracheal tube cuff pressure
16. Describe how to extubate a patient
17. Demonstrate how to perform endotracheal and nasotracheal suctioning
18. Describe abnormal chest exam data
19. Describe how to assist the physician in setting up and performing bronchoscopy
20. Describe normal airway clearance mechanism and what can impair their function
21. List diseases associated with abnormal clearance of secretions
22. List goals and indications for bronchial hygiene therapy
23. Demonstrate postural drainage therapy
24. Demonstrate directed coughing and related expulsion techniques
25. Demonstrate PEP therapy
26. Demonstrate mobilization and exercise
27. Describe how to monitor and evaluate patients response to bronchial hygiene therapy
28. Describe how to modify bronchial hygiene therapies based on the patients response
29. Demonstrate incentive spirometry therapy
30. Demonstrate intermittent positive pressure breathing therapy
31. Describe how to perform arterial blood gas sampling and analysis
32. Demonstrate arterial blood gas sampling and analysis
33. Describe how to perform an electrocardiogram (ECG)
34. Describe the electrophysiology of cardiac cells
35. Demonstrate how to perform an electrocardiogram (ECG)

COURSE STRUCTURE: This course will meet for lecture and classroom activities Tuesday and Thursday from 1:00 P.M. until 4:00 PM

EXIT COMPETENCIES:
- List causes of various types of atelectasis
- Describe the primary responsibilities of the RCP when delivering lung expansion therapy
- Describe how to assess the need for and select an artificial airway
- Demonstrate how to perform orotracheal and nasotracheal tube intubation
- Describe how to measure and adjust tracheal tube cuff pressure
- Describe how to extubate a patient
- Demonstrate how to perform endotracheal and nasotracheal suctioning
- List diseases associated with abnormal clearance of secretions
- Demonstrate the ability to distinguish between normal and abnormal data found on chest x-ray exams
- List goals and indications for bronchial hygiene therapy
- Describe how to modify bronchial hygiene therapies based on the patient’s response
- Describe how to perform an arterial blood gas sample, analysis and interpretation
- Demonstrate an arterial blood gas sample and analysis
- Demonstrate an electrocardiogram (ECG) and identify normal and abnormal recordings

COURSE TEXT:
Kacmarek, Egan’s Fundamentals of Respiratory Care, 10th edition
Wehrman, Egan’s Fundamentals of Respiratory Care Workbook, 10th edition
Volsko, Equipment for Respiratory Care

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:
The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any additional resources, including the Internet, which can be accessed in the computer lab in room # 157 and the professional journals in the Library, rooms, 123 and 129. Students can also access Cisco College library by logging on to the web site at www.cisco.edu

EVALUATION METHODS, INCLUDING GRADING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
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<tr>
<td>Test</td>
<td>50%</td>
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<tr>
<td>Final exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final Grade</td>
<td>100%</td>
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In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.
A – Excellent  90-100%
B – Good  80 - 89%
C – Average  75 – 79%
D - Failing grade  60-74%
F – Failing grade  59% or less
W – Withdrawal  Formal withdrawal from the program

2. Progression to the next level will only be possible by receiving a “C” or better in the course.

ATTENDANCE POLICY:
Full attendance is expected of Respiratory Care students in their course of study and attendance will be taken daily. Students may withdrawn for excessive absences and/or failure to notify the instructor of an absence. Quizzes given on days absent will not be made up.

COURSE CONTENT:
College-level courses may include controversial, sensitive, and/or adult material. Students are expected to have the readiness for college-level rigor and content.

ACADEMIC INTEGRITY:
It is the intent of Cisco College to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possible suspension.

STUDENT CONDUCT:
Students are expected to take responsibility in helping to maintain a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from the time spent in class, students are prohibited from using cell phones or beepers, making offensive remarks, reading material not related to class, sleeping, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, at a minimum, in a request to leave class. A more detailed list of inappropriate behaviors is found in the current student handbook.

CHANGES TO THE SYLLABUS:
The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

STUDENTS WITH SPECIAL NEEDS:
Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.
### Resources
1.1 Manages time by following course schedule.

### Interpersonal
2.1 Participates as a Member of a Team: Completes in class group activities cooperatively with others.
2.3 Serves Clients/Customer: Works and communicates with clients and customers to satisfy their expectations.
2.6 Works with Cultural Diversity: Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

### Information
3.1 Acquires and evaluates information in class and through reading assignments.
3.2 Organizes and Maintains Information: Organizes, processes and maintains the various written or computerized medical information used in respiratory care.
3.3 Uses Computers to Process Information by organizing and communicating course assignments to instructor.

### Technology
5.1 Selects Technology: Utilizes tools and machines including computers and their programs in order to complete assignments effectively.
5.2 Applies Technology to Task: Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.
5.3 Maintains and Troubleshoots Technology: Prevents, identifies, or solves problems in machines, computers and other technologies.

### Basic Skills
6.1 Reading: Carefully assimilates materials including all reading assignments and prioritizes and interprets information.
6.2 Writing: Communicates thoughts, ideas and messages through the completion of written assignments.
6.3 Arithmetic: Analyze numerical concepts in practical situations using graphs and charts to convey lung volumes and capacities.
6.5 Listening: Student will listen to lectures, and respond utilizing both verbal and nonverbal communication. Student will critically analyze information presented in classroom for clarity and accuracy.

### Thinking Skills
7.1 Creative Thinking: Connects theory with practice and formulates new personal goals.
7.2 Decision Making: Considers risks involved in proper lifting of patients and evaluates appropriate alternative.
7.3 Problem Solving: Through case studies; identifies problems that exist, reasons for discrepancies, and implements plan of action for resolution of the problem.
7.6 Reasoning: Utilize the rule or principle underlying the relationship between the structures of the respiratory system and the treatments used in respiratory care.
<table>
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<tr>
<th><strong>6.6 Speaking:</strong> Organizes ideas for presentation and uses proper terminology in communicating messages.</th>
</tr>
</thead>
</table>
| **Personal Qualities**  
**8.1 Responsibility:** Displays high standards of attendance and punctuality in class.  
**8.2 Self Esteem:** Leaves course with confidence in the ability to communicate with coworkers.  
**8.3 Sociability:** Responds appropriately in a group setting with friendliness, adaptability, and empathy.  
**8.4 Self-Management:** Sets personal goals and motivates self for achievement.  
**8.5 Integrity/Honesty:** Identify unethical and ethical practices and understand the components of malpractice. |

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### SCANS COMPETENCIES

### SCANS COMPETENCIES WITH DEFINITIONS

**1.0 RESOURCES**
- **1.1 Manages Time:** Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- **1.2 Manages Money:** Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
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**SCANS FOUNDATION SKILLS**

6.0 BASIC SKILLS

- 6.1 **Reading**: Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.
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6.3 Arithmetic: Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

6.4 Mathematics: Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

6.5 Listening: Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn, to critically evaluate; to appreciate, or to support the speaker.

6.6 Speaking: Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

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- 7.4 Mental Visualization: Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.
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- **8.1 Responsibility:** Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

- **8.2 Self-Esteem:** Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.

- **8.3 Sociability:** Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

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- **8.5 Integrity/Honesty:** Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.

Revised 1/16 mgc
Cisco College
Abilene Educational Center
RSPT 1361 Clinical - Respiratory Therapy
Spring 2016

INSTRUCTOR: Melody Cusson, MA, M.Ed., RRT, RCP
              Sheila Surgeon, RRT, RCP
              Tracy Talley, BSRC, RRT, RCP

OFFICES:     AEC Office #39

TELEPHONE:   AEC # 794-4506
              Melody.cusson@cisco.edu

OFFICE HOURS: Variable, by appointment only

COURSE DESCRIPTION:
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

TIME ALLOTMENT: Spring Semester    Credit: 2 semester hours
Lecture Hours: 0     Experience Hours: 256

Pre-REQUISITES: RSPT 1201, RSPT 1160, RSPT 1329

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:

The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Committee on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:

• apply the theory, concepts, and skills involving specialized materials, tools, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry
• Demonstrate legal and ethical behavior, safety practices, safety practices, interpersonal and teamwork skills
• Appropriate written and verbal communication skills using the terminology of the occupation and the business/industry.

COURSE OBJECTIVES:
The student will successfully complete all procedures in the laboratory/clinical setting.
1. Identify and perform Incentive Spirometry
2. Identify and perform IPPB
3. Identify and perform CPT
4. Perform tracheal aspiration
5. Perform Physiological Monitoring

COURSE STRUCTURE:
Introduction to the field of Respiratory Care in the clinical setting with limited exposure to a variety of equipment used in the clinical setting.

EXIT COMPETENCIES:
Upon completion of this course the student will have these skills:
1. Use appropriate terminology related to various respiratory therapy equipment.
2. Demonstrate the ability to interact appropriately and professionally with patients and other health care team members.
3. Demonstrate knowledge of patient medical record.
4. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and teamwork principles when performing the role of the respiratory care practitioner.

COURSE TEXT:
Reading assignments at clinical instructor’s discretion.

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:
The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any
additional resources, including the Internet, which can be accessed in the computer lab in room # 157 and the professional journals in the Library, Rooms, 123 and 129. Students can also access Cisco College library by logging on to the web site at www.cisco.edu

EVALUATION METHODS, INCLUDING GRADING:

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

- **A**: 90-100%
- **B**: 89-80%
- **C**: 79-75%
- **D**: 74-60%
- **F**: <59%

In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit toward graduation from the Respiratory Care Program. Assessment of course objective competencies will be completed and recorded with DataArc.

DataArc documentation: 25%
Patient evaluation forms: 25%

- 8 or more: 100
- 6 - 7: 85
- 5 - 4: 80
- Less than 4: 70

Preceptor clinical evaluation: 10%
Physician interactions: 10% (3 physician lectures plus 3 others)
Competencies: 30%

Adult/Pedi/Neo

- x-ray interpretation
- Incentive Spirometry
- Mucous clearance adj.
- Tracheal sx
- Cuff management
- ABG sampling

- IPPB
- Coughing
- ET sx
- In-line sx
- Intubation –lab only
- ABG analysis

- Breathing Exercises
- Chest physiotherapy
- NT sx
- Securing airway
- extubation
- EKG

ATTENDANCE POLICY:

1. Students are expected to attend all clinical rotations, actively participate in learning activities, complete all projects and demonstrate competency of designated knowledge and skills.

2. Any clinical absence must be made up at a time to be determined by the clinical instructor. It is the student’s responsibility to ensure the clinical make-up is prescheduled prior to notifying the clinical affiliate.

3. **The 3rd (total) absence in any RSPT course will result in 5 points being deducted from the clinical grade for each incident.** I.e. the 3rd
incident will result in the starting grade of “90”. Additional 5 points will be deducted if clinical make up is not scheduled within 14 days.

POLICY ON SUBMISSION OF PROJECTS:
The projects must be completed according to the established guidelines and must be submitted on time.

COURSE CONTENT:
College-level courses may include controversial, sensitive, and/or adult material. Students are expected to have the readiness for college-level rigor and content.

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CHANGES TO THE SYLLABUS:
The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

STUDENTS WITH SPECIAL NEEDS:
Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.

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8.4 Self Management: Manages time effectively. Responds positively to feedback from constructive advise during clinical rotation.

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SCANS COMPETENCIES

SCANS COMPETENCIES WITH DEFINITIONS

1.0 RESOURCES

- 1.1 Manages Time: Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- 1.2 Manages Money: Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
- 1.3 Manages Materials and Facility Resources: Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
- 1.4 Manages Human Resources: Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

2.0 INTERPERSONAL

- 2.1 Participates as a Member of a Team: Works cooperatively with others and contributes to group with ideas, suggestions, and effort.
- 2.2 Teaches Others: Helps others to learn.
• 2.3 **Serves Clients/Customers:** Works and communicates with clients and customers to satisfy their expectations.

• 2.4 **Exercises Leadership:** Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups; including responsibility challenging existing procedures, policies, or authority.

• 2.5 **Negotiates:** Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.

• 2.6 **Works with Cultural Diversity:** Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

3.0 INFORMATION

• 3.1 **Acquires and Evaluates Information:** Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy.

• 3.2 **Organizes and Maintains Information:** Organizes, processes, and maintains written or computerized reports or other forms of information in a systematic fashion.

• 3.3 **Uses Computers to Process Information:** Employs computers to acquire, organize, analyze, and communicate information.

4.0 SYSTEMS

• 4.1 **Understands Systems:** Knows how social, organizational, and technological systems work and operates effectively within them.

• 4.2 **Monitors and Corrects Performance:** Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.

• 4.3 **Improves and Designs Systems:** Makes suggestions to modify existing systems to improve products or services, and develops new or alternative systems.

5.0 TECHNOLOGY

• 5.1 **Selects Technology:** Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.

• 5.2 **Applies Technology to Task:** Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.

• 5.3 **Maintains and Troubleshoots Technology:** Prevents, identifies, or solves problems in machines, computers and other technologies.

SCANS FOUNDATION SKILLS

6.0 BASIC SKILLS

• 6.1 **Reading:** Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications: infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.
6.2 Writing: Communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject-matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.

6.3 Arithmetic: Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

6.4 Mathematics: Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

6.5 Listening: Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn, to critically evaluate; to appreciate, or to support the speaker.

6.6 Speaking: Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

7.0 THINKING SKILLS

7.2 Decision Making: Specifies goals and constraints, generates alternatives, considers risks and evaluates and chooses best alternatives.

7.3 Problem Solving: Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.

7.4 Mental Visualization: Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.

7.5 Knowing How To Learn: Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and
informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

- **7.6 Reasoning:** Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

### 8.0 PERSONAL QUALITIES

- **8.1 Responsibility:** Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

- **8.2 Self-Esteem:** Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.

- **8.3 Sociability:** Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

- **8.4 Self-Management** Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals, monitors progress goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and non-defensively, is a “self-starter.”

- **8.5 Integrity/Honesty:** Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.

Revised 1/16 mge
INSTRUCTOR: Jeff Lawrence, MS, RRT, RCP

OFFICE: Cisco College Office # 40
TELEPHONE: Cisco College 794-4507
jeff.lawrence@cisco.edu

OFFICE HOURS: Variable, by appointment only

COURSE DESCRIPTION:
Etiology, pathogenesis, pathology, diagnosis, history, prognosis, manifestations, treatment and detection of cardiopulmonary diseases. The course focuses on the signs, symptoms, causes, and treatment of pulmonary chronic obstructive pulmonary disease, disease of the nervous system, respiratory muscles and occupational lung diseases. In addition, the assessment and treatment of patients with cardiopulmonary disease includes restrictive lung disease, cardiac disease, infectious disease and lung cancer; an extensive look at hemodynamic study, fluid and electrolyte study.

TIME ALLOTMENT: Fall Semester Credit: 2 semester hours
Lecture Hours: 2 Experience Hours: 0

PreREQUISITES: RSPT 1207

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:
The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Committee on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:
- Analyze the etiology, pathophysiology, clinical manifestations, and management of cardiopulmonary disorders; and compare cardiopulmonary disorders.
- Apply the theory, concepts, and skills involving specialized equipment, procedures in the care of cardiopulmonary diseases.
COURSE OBJECTIVES:

The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives.

1. Describe the process of obtaining patient history of the adult and pediatric patient
2. Describe physical assessment techniques
3. Analyze physical findings for various disease processes
4. Describe the normal chest x-ray
5. Analyze radiographic findings for various disease processes
6. Describe normal values for fluids and electrolytes
7. Describe normal water balance
8. Analyze signs and symptoms of volume excess/deficit
9. Analyze sign and symptoms of electrolyte imbalance
10. Describe normal laboratory findings
11. Analyze abnormal laboratory findings
12. Describe hemodynamic monitoring methods
13. Describe indications for hemodynamic monitoring
14. Describe hazards of hemodynamic monitoring
15. Analyze hemodynamic findings for various disease processes
16. Define various disease processes
17. List causes of various disease processes
18. Describe the pathophysiology of the various disease processes
19. Describe the clinical picture of various disease processes
20. Describe the treatment of various disease processes
21. Complete the assigned pathology computer programs

COURSE STRUCTURE:

This course will meet on Tuesday and Thursday: 10:00AM – 12:00PM

EXIT COMPETENCIES:

Upon completion of this course the student will have these skills:
1. Use appropriate terminology related to various respiratory therapy equipment used in the treatment of cardiopulmonary diseases.
2. Demonstrate the ability to interact appropriately and professionally with patients, patient’s family members and other health care team members.
3. Demonstrate knowledge of patient medical record.
4. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and team work principles when performing the role of the respiratory care practitioner.
5. Explain the mode of action, clinical indications, dosages, hazards, and side effects of pulmonary and cardiovascular drugs.
6. Demonstrate the ability to critically analyze and apply the appropriate signs and symptoms
associated with the cardiopulmonary diseases.
7. Demonstrate proficiency through critical analysis and application of diagnostic procedures, tests, and collection of patient data.

COURSE TEXT:

RSPT 2210 Cardiopulmonary Lecture Notes.

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:

The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any additional resources such as the professional journals. Students can also access CC library by logging on to the web site at www.cisco.edu

EVALUATION METHODS, INCLUDING GRADING:

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

<table>
<thead>
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<td>A</td>
<td>90-100%</td>
</tr>
<tr>
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</tr>
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<tr>
<td>D</td>
<td>&lt; 75%</td>
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In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit toward graduation from the Respiratory Care Program.

The student must maintain a minimum 70% average on all major exams prior to taking the final exam in order to successfully complete the course. Students who do not maintain this average will not be allowed to attempt the final course exam. A grade of 75% or greater is required to pass this course.

Students who fail to complete the assigned computer programs will not be permitted to attempt the final course exam.

Final Examination Date/Time: per Cisco College schedule

ATTENDANCE POLICY:

Full attendance is expected of Respiratory Care students in their course of study and attendance will be taken daily.
POLICY ON SUBMISSION OF PROJECTS:

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TECHNOLOGY INTEGRATION
Respiratory care courses involve the use technology in various forms including computerized training software and simulations students are required to complete. All courses involve internet based research assignments. Various courses require at least one research paper using basic computer word processing skills such as Microsoft Word. (*Refer to evaluation methods on syllabi to see if research papers are required.*) Please see your instructor if you require assistance in the use of computers and internet, or if you need special accommodations to aid you in using our computers.

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7.0 THINKING SKILLS

• **Creative Thinking**: Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.

• **7.2 Decision Making**: Specifies goals and constraints, generates alternatives, considers risks and evaluates and chooses best alternatives.

• **7.3 Problem Solving**: Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.

• **7.4 Mental Visualization**: Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.

• **7.5 Knowing How To Learn**: Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

• **7.6 Reasoning**: Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

8.0 PERSONAL QUALITIES

• **8.1 Responsibility**: Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned
an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

- **8.2 Self-Esteem:** Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.
- **8.3 Sociability:** Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.
- **8.4 Self-Management** Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals, monitors progress goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and non-defensively, is a “self-starter.”
- **8.5 Integrity/Honesty:** Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.
Abilene Educational Center
RSPT 2267 Practicum-Respiratory Therapy
Spring Semester second year

INSTRUCTOR: Jeff Lawrence, MS, RRT, RCP

OFFICES: AEC Office # 40

TELEPHONE: AEC # 794-4507 Jeff.lawrence@cisco.edu

OFFICE HOURS: Variable, by appointment only

COURSE DESCRIPTION: Practical general workplace training supported by an individualized learning place by the employer, college, and student.

TIME ALLOTMENT: Summer Semester Credit: 2 semester hours
Lecture Hours: 0 Experience Hours: 256

CO-REQUISITES: RSPT 2305, RSPT 1491, RSPT 1141

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:
The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Commission on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:
• apply the theory, concepts, and skills involving specialized equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, social, and legal systems associated with the occupation and the business/industry
• Demonstrate legal and ethical behavior, safety practices, interpersonal and teamwork skills.

COURSE OBJECTIVES: The student will successfully attempt all procedures in the laboratory/clinical setting.

I. Review Existing Data in the Patient Record Including
A. Patient history (present illness, admission notes, respiratory care orders, progress notes, diagnoses, DNR status)
B. Physical examination relative to the cardiopulmonary system (vital signs, physical findings)
C. Lab data (CBC, chemistries/electrolytes, coagulation studies, Gram-stain, culture and sensitivities, urinalysis, pleural fluid
D. Pulmonary function results
E. Blood gas results
F. Imaging studies (radiographic, CT, MRI, PET, angiogram)
G. Monitoring data
   1. Pulmonary mechanics (MIP, VC)
   2. Respiratory monitoring (rate, tidal volume, minute volume, I:E, inspiratory and expiratory pressures, airway graphics)
H. Pulmonary compliance, airways resistance, WOB
I. Noninvasive monitoring (VD/VT, capnography, pulse oximetry, transcutaneous O2/CO2)
J. Maternal and perinatal/neonatal history and data (APGAR scores, gestational age, L/S ratio, pre/post ductal oxygenation studies

II. Collect and Evaluate Additional Pertinent Clinical Information (when allowed by clinical institution)
   A. Assess patient’s overall cardiopulmonary status by inspection to determine
      I. General appearance (muscle wasting, venous distention, peripheral edema, diaphoresis, clubbing, cyanosis, capillary refill, chest configuration, evidence of diaphragmatic movement, breathing pattern, accessory muscle activity, asymmetrical chest movement, intercostal and/or sternal retractions, nasal flaring
      II. Cough, amount and character of sputum
      III. Transillumination of chest, APGAR score, gestational age
   B. Assess patient’s overall cardiopulmonary status by palpation to determine
      I. Heart rate, rhythm and force
      II. Asymmetrical chest movement, tactile fremitus, crepitus, tenderness, secretions in the airway, tracheal deviation
   C. Assess patient’s overall cardiopulmonary status by auscultation to determine presence of
      I. Breath sounds (normal, abnormal)
      II. Heart sounds and rhythms (normal, abnormal)
      III. Blood pressure
   D. Interview patient to determine
      I. Level of consciousness/sedation, orientation to time, place and person, emotional state, ability to cooperate, level of pain
      II. Presence of dyspnea and/or orthopnea, work of breathing, sputum production, exercise tolerance and activities of daily living
      III. Social history (smoking, substance abuse)
      IV. Advance directives (DNR status)
E. Assess patient’s learning needs

F. Review chest radiograph to determine
   I. Quality of imaging (patient identification, positioning, exposure)
   II. Position of endotracheal or tracheostomy tube
   III. Presence of or change in pneumothorax or subcutaneous emphysema, other extrapulmonary air, consolidation and/or atelectasis, pulmonary infiltrates
   IV. Position of chest tube(s), nasogastric and/or feeding tube, pulmonary artery catheter, pacemaker, and other catheters
   V. Presence and position of foreign bodies
   VI. Position of or change in hemidiaphragms, hyperinflation, pleural fluid, pulmonary edema, mediastinal shift, patency and size of major airways

G. Perform procedures including
   I. 12 lead ECG
   II. Pulse oximetry, capnography
   III. Tidal volume, minute volume, peak flow, vital capacity
   IV. Bedside spirometry (FVC, FEV₁)
   V. Arterial sampling (percutaneous or line)
   VI. Blood gas/hemoximetry analysis
   VII. Lung mechanics (MIP, MEP, pulmonary compliance, plateau pressure, airways resistance)
   VIII. Ventilator pressure-volume and flow-volume loops
   IX. Apnea monitoring
   X. Overnight pulse oximetry
   XI. Tracheal tube cuff pressure and or volume
   XII. Tracheal intubation
   XIII. Pulmonary function laboratory studies (flows, volumes, diffusion studies, pre and post bronchodilator)
   XIV. Auto-PEEP detection

H. Interpret procedure results including
   I. Transcutaneous O₂/CO₂ monitoring
   II. Pulse oximetry, capnography
   III. Tidal volume, minute volume, peak flow, vital capacity
   IV. Blood gas/hemoximetry analysis
   V. Bedside spirometry (FVC, FEV₁)
   VI. Lung mechanics (MIP, MEP, pulmonary compliance, plateau pressure, airways resistance)
   VII. Apnea monitoring
   VIII. Overnight pulse oximetry
   IX. Tracheal tube cuff pressure and or volume
   X. Pulmonary function laboratory studies (flows, volumes, diffusion studies, pre and post bronchodilator)
   XI. Ventilator pressure-volume and flow-volume loops
   XII. Auto-PEEP
III. Recommend Procedures to Obtain Additional Data
   A. Radiographic and other imaging studies
   B. Lung mechanic (pulmonary compliance, airways resistance, WOB)
   C. Blood gas analysis, pulse oximetry, transcutaneous O2/CO2 monitoring

IV. Select, Assemble, Use, and Troubleshoot Equipment (when allowed by clinical institution)
   A. Oxygen administration devices
      I. Low-flow devices (nasal cannula)
      II. High-flow devices (air entrainment mask)
   B. CPAP devices (mask, nasal or bi-level)
   C. Humidifiers (bubble, passover, wick, HME)
   D. Pneumatic aerosol generator (nebulizer)
   E. Resuscitation devices (manual resuscitator (bag-valve), mouth-to-valve mask resuscitator)
   F. Ventilators
      I. Pneumatic, electric, fluidic, microprocessor
      II. Noninvasive positive pressure
      III. High frequency
   G. Artificial airways
      I. Oro- and nasopharyngeal airways
      II. Endotracheal tubes
      III. Tracheostomy tube and buttons
      IV. Intubation equipment (laryngoscope and blades, fiberoptic devices, exhaled CO2 detection devices)
   H. Suctioning devices (suction catheters, specimen collectors, oropharyngeal suction devices)
   I. Gas delivering, metering, and clinical analyzing devices
      I. Gas cylinders, regulators, reducing valves, connectors and flowmeters, air/oxygen blenders
      II. Oxygen concentrators, air compressors, portable liquid oxygen systems
   J. Point-of-care blood gas analyzers
   K. Patient breathing circuits
      I. Continuous mechanical ventilation
      II. IPPB
      III. CPAP, PEEP valve assembly
      IV. Noninvasive ventilation
   L. Aerosol (mist) tents
   M. Incentive breathing devices
   N. Percussors and vibrators
   O. High Frequency Chest Wall Oscillation
   P. Positive expiratory pressure (PEP) devices
   Q. Vibratory PEP (Flutter) mucous clearance devices
   R. He/O2 therapeutic gas
S. Manometers (water, mercury, and aneroid)
T. Respirometer (flow sensing devices, pneumotachometer)
U. ECG machine (12-lead)
V. Arterial catheters
W. Vacuum system (pumps, regulators, collection bottles, pleural drainage devices)
X. Oximetry monitoring devices (pulse oximeter, transcutaneous)
Y. Metered dose inhalers (MDI), MDI spacers
Z. Dry powder inhalers
AA. Spirometry screening equipment for bedside
BB. Speaking tubes and valves
CC. CO, He, O₂ and specialty gas analyzers
DD. Bronchoscopes

V. Ensure Infection Control
A. Assure selected equipment cleanliness (select or determine appropriate agent and technique for disinfection and/or sterilization, perform procedures for disinfection and/or sterilization, monitor effectiveness of sterilization procedures
B. Assure proper handling of biohazardous materials

VI. Perform Quality Control Procedure For
A. Blood gas analyzers, co-oximeter, and sampling devices
B. Oxygen analyzers
C. Pulmonary function equipment
D. Mechanical ventilators
E. Noninvasive monitors (transcutaneous)
F. Record and monitor QC data using accepted statistical methods

VII. Maintain Records and Communicate Information
A. Record therapy and results using conventional terminology as required in the health care setting and/or regulatory agency
   I. Specify therapy administered, date, time, frequency of therapy, medication, and ventilatory data
   II. Note and interpret patient’s response to therapy including
       1. Effects of therapy, adverse reactions, patient’s subjective and attitudinal response to therapy
       2. Auscultatory findings, cough and sputum production and characteristics
       3. Vital signs (heart rate, respiratory rate, blood pressure, body temperature, pain level)
       4. Pulse oximetry, heart rhythm, capnography
B. Verify computation and note erroneous data
C. Communicate information
   I. Regarding patient’s clinical status to appropriate members of the health care team
II. Relevant to coordinating patient care and discharge planning (scheduling, avoiding conflicts, sequencing of therapies)

D. Apply computer technology to
   I. Document patient management
   II. Monitor workload assignments

E. Communicates results of therapy and alter therapy per protocol

F. Explain planned therapy and goals to patient in understandable terms to achieve optimal therapeutic outcome

G. Counsel patient and family concerning smoking cessation and disease management education

VIII. Maintain Patent Airway Including the Care of Artificial Airways (when allowed by clinical institution)
   A. Properly position patient
   B. Insert oro- and nasopharyngeal airways
   C. Perform endotracheal intubation
   D. Identify tube placement by available means
   E. Change tracheostomy tubes
   F. Maintain
      I. Proper cuff inflation
      II. Adequate humidification
   G. Perform extubation procedure

IX. Remove Bronchopulmonary Secretions
   A. Perform
      I. Postural drainage and percussion and/or vibration
      II. Nasotracheal suctioning
      III. Oropharyngeal suctioning
   B. Suction artificial airways
   C. Administer aerosol therapy, administer prescribed agents (bronchodilators, corticosteroids, saline, mucolytics, antibiotics)
   D. Instruct and encourage bronchopulmonary hygiene techniques

E. Achieve Adequate Respiratory Support
   I. Proper breathing technique, encourage deep breathing, instruct and monitor techniques of incentive spirometry
   II. Inspiratory muscle training techniques

F. Initiate and adjust
   I. IPPB therapy
   II. Continuous mechanical ventilation settings
   III. Noninvasive ventilation
   IV. Elevated baseline pressure (CPAP, PEEP)
   V. Combination of ventilatory techniques (SIMV, PEEP, PS, PCV, IRV, BiLevel, inspiratory hold)
   G. Select ventilator graphic (waveforms, scales)
H. Administer
   I. Aerosolized drugs (bronchodilators, corticosteroids)
   II. Oxygen – on or off a ventilator
I. Initiate and modify weaning procedures
J. Position patient to minimize hypoxemia
K. Prevent procedure associated hypoxemia (oxygenate before and after suctioning and equipment changes
L. Adhere to infection control policies and procedures (Standard Precautions)

X. Evaluate and Monitor Patient’s Objective and Subjective Responses to Respiratory Care
A. Recommend and review chest radiograph
B. Obtain a blood gas sample
   I. By puncture
   II. From an arterial or pulmonary artery catheter
   III. From arterialized capillary blood
C. Perform
   I. Pulse oximetry
   II. Blood gas and co-oximetry analyses
   III. Capnography
D. Interpret blood gas and co-oximetry results
E. Observe changes in sputum characteristics
F. Observe for signs of patient-ventilator dysynchrony
G. Measure and record vital signs, monitor cardiac rhythm, evaluate fluid balance (I&O)
H. Perform spirometry, determine vital capacity, measure pulmonary compliance and airways resistance, interpret airway graphics, measure peak flow
I. Monitor mean airway pressure, adjust and check alarm systems, measure tidal volume, respiratory rate, airway pressures, I:E, and maximum inspiratory pressure
J. Measure FiO₂ and/or liter flow
K. Monitor endotracheal or tracheostomy tube cuff pressure
L. Auscultate chest and interpret changes in the breath sounds

XI. Independently Modify Therapeutic Procedures Based on the Patient’s Response
A. Terminate treatment based on patient’s response to therapy
B. Modify treatment techniques including
   I. IPPB (volume, flow, pressure, FiO₂, mouthpiece/mask)
   II. Incentive breathing devices
   III. Aerosol therapy
      1. Modify patient’s breathing pattern
      2. Change type of equipment, change aerosol output
      3. Change dilution of medication, adjust temperature of the aerosol
   IV. Oxygen therapy
      1. Change mode of administration, adjust flow, and FiO₂
      2. Set up or change an O₂ blender
3. Set up an O₂ concentrator or liquid O₂ system

V. Specialty gas (He/O₂, NO) therapy (change mode of administration, adjust flow, adjust gas concentration)

VI. Bronchial hygiene therapy (alter patient position and duration of treatment and techniques; coordinate sequence of therapies such as chest percussion, postural drainage and PEP therapy)

VII. Management of artificial airways
   1. Reposition or change endotracheal or tracheostomy tube
   2. Change type of humidification equipment
   3. Initiate suctioning
   4. Infl`ate and/or deflate the cuff
   5. Perform tracheostomy care

VIII. Suctioning
   1. Alter frequency and duration of suctioning
   2. Change size and type of catheter
   3. Alter negative pressure
   4. Instill irrigating solutions

IX. Mechanical ventilation
   1. Improve patient synchrony (sensitivity, mode)
   2. Enhance oxygenation (FiO₂, PEEP/CPAP, inspiratory time)
   3. Improve alveolar ventilation (tidal volume, rate)
   4. Adjust I:E settings
   5. Modify ventilator techniques (pressure support, pressure control, BiLevel)
   6. Adjust noninvasive positive pressure ventilation
   7. Monitor and adjust alarm setting
   8. Adjust ventilator settings based on ventilator graphics
   9. Change type of ventilator, change patient breathing circuitry
   10. Change mechanical dead space
       a. Procedure for weaning from mechanical ventilation

XII. Recommend Modifications in the Respiratory Care Plan Based on the Patient’s Response

A. Recommend
   I. Institution of bronchopulmonary hygiene procedures
   II. Sedation and/or use of muscle relaxants
   III. Insertion or change of artificial airway (endotracheal tube, LMA, tracheostomy)
   IV. Procedures for weaning from mechanical ventilation
   V. Extubation
   VI. Discontinuing treatment based on patient response

B. Recommend changes in
   I. Patient position
   II. Aerosol drug dosage or concentration
   III. FiO₂ and oxygen flow
C. Recommend changes in mechanical ventilation to
   I. Improve patient synchrony (sensitivity, mode)
   II. Enhance oxygenation (FiO₂, PEEP/CPAP, inspiratory time)
   III. Improve alveolar ventilation (tidal volume, rate)
   IV. Adjust I:E settings
   V. Modify ventilator techniques (pressure support, pressure control)
   VI. Adjust noninvasive positive pressure ventilation
   VII. Monitor and adjust alarm setting
   VIII. Adjust ventilator settings based on ventilator graphics
   IX. Change type of ventilator, change patient breathing circuitry
   X. Alter mechanical dead space
   XI. Modify ventilator setting to
       1. Eliminate auto-PEEP
       2. Reduce plateau pressure

D. Recommend use of pharmacologic interventions including
   1. Bronchodilators (adrenergics, anticholinergics, theophyllines)
   2. Anti-inflammatory drugs (leukotriene modifiers, corticosteroids, NSAID, hypertonic solution, topical anesthetic)
   3. Mucolytics/proteolytics (acetylcysteine, RhDNAse)
   4. Sedatives
   5. Analgesics
   6. Diuretics
   7. Surfactants

XIII. Determine the Appropriateness of the Prescribed Respiratory Care Plan and Recommend Modifications When indicated
   A. Analyze available data to determine pathophysiological state
   B. Review
      I. Planned therapy to establish therapeutic plan
      II. Interdisciplinary patient and family plan
   C. Determine appropriateness of prescribed therapy and goals for identified pathophysiological state
   D. Recommend changes in therapeutic plan when indicated based on data
   E. Perform respiratory care quality assurance
   F. Develop outcomes of
      I. Quality improvement programs
      II. Respiratory care protocols
   G. Monitor outcomes of
      I. Quality improvement programs
      II. Respiratory care protocols
   H. Apply respiratory care protocols
   I. Conduct disease management education

XIV. Initiate, Conduct, or Modify Respiratory Care Techniques in an Emergency Setting
   A. Treat cardiopulmonary collapse according to either one or more of the following
I. BCLS  
II. ACLS  
III. PALS  

B. Treat tension pneumothorax  
C. Participate in  
   I. Intra-hospital patient transport  
   II. Disaster management  

XV. Act as an Assistant to the physician Performing Special Procedures Including  
A. Bronchoscopy  
B. Tracheostomy  
C. Cardioversion  
D. Intubation  

XVI. Initiate and Conduct Pulmonary Rehabilitation and Home Care within the Prescription  
A. Explain planned therapy and goals to patient in understandable terms to achieve optimal therapeutic outcome  
B. Educate patient and family in disease management  
C. Counsel patient and family concerning smoking cessation  
D. Instruct patient and family to assure safety and infections control  

XVII. Cultivate, maintain and adhere to professionalism  

XVIII. Demonstrates professional image at all times  
A. Communicates ideas in a professional manner to both health care personnel and patients  
B. Communicates ideas concisely in written format  
C. Seeks out learning experiences  
D. Adheres to hospital policies/procedures  
E. Accepts constructive criticism  
F. Demonstrates concern for safety of self and others  
G. Demonstrates caring behavior  
H. Chooses ethical courses of action  
I. Promote and strengthens Respiratory Care Profession  

**COURSE STRUCTURE:** Introduction to the field of Respiratory Care in the clinical setting with limited exposure to a variety of equipment used in the clinical setting.  

**EXIT COMPETENCIES:** Upon completion of this course the student will have these skills:
1. Use appropriate terminology related to various respiratory therapy equipment.
2. Demonstrate the ability to interact appropriately and professionally with patients and other health care team members.
3. Demonstrate knowledge of patient medical record.
4. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and team work principles when performing the role of the respiratory care practitioner.

**COURSE TEXT:** Reading assignments at clinical instructor’s discretion.

Scanlan, Egan’s Fundamentals of Respiratory Care, 10th edition
Mosby, Respiratory Care Equipment 8th edition

**RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:**

The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any additional resources, including the Internet, which can be accessed in the computer lab in room and the professional journals in the Library, Rooms, 123 and 129. Students can also access Cisco College library by logging on to the web site at [www.cisco.edu](http://www.cisco.edu)

**EVALUATION METHODS, INCLUDING GRADING:**

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

- A 90-100%
- B 80-98%
- C 75-79%
- D < 75%

In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit toward graduation from the Respiratory Care Program. Assessment of course objective competencies will be completed and recorded with DataArc.

| Clinical Performance Evaluations | 40% |
1. Student must have a satisfactory on each step in the competency being assessed by preceptor or instructor. The following is a list of clinical competencies that must be completed (not observed) no later that the last week of the clinical schedule: Total points awarded will be based on the following point system:

If at the end of the semester and N0 attempt was made at competencies, the student will receive an F for the course.

If skills 1-10 were not completed in RSPT 2266 then these MUST BE COMPLETED in RSPT 2267. Skills 10-18 are required for RSPT 2267

1. Intra-hospital Transport (Course objectives I-VII, XI-XVI)
2. Act as an assistant and/or observe in either of the following: cardioversion, intubation, tracheostomy, thoracentesis, bronchoscopy (Course objectives I-VII, XI-XVI)
3. Bedside ECG (Course objectives I-VII, XI-XVI)
4. Observation/assisting with intubation and extubation (Course objectives I-VII, XI-XVI)
5. Arterial blood gas sample by arterial line (Course objectives I-VII, XI-XVI)
6. Initiate mechanical ventilation on adult patient without assistance but under direct observation. (Course objectives I-VII, XI-XVI)
7. Aerosol delivery via hand-held device to the pediatric and neonatal patient (Course objectives I-VII, XI-XVI)
8. ETT suction of the pediatric and neonatal patient (Course objectives I-VII, XI-XVI)
9. Chest percussion and Drainage on pediatric patient (Course objectives I-VI, VIII-XIII)
10. Spontaneous Pulmonary Mechanics (Course Objective I-VII, XI-XVI)
11. Bedside Spirometry (Course Objective I-VII, XI-XVI)
12. Pulmonary Function Testing, including pre-post studies, diffusion studies (Course Objective I-VII, XI-XVI.
15. Recommend and adjust ventilator setting based on ventilator graphics (Course objectives I-VII,VIII-XIII).
16. Initiate pediatric and/or neonatal mechanical ventilation (Course objectives I-VII,VIII-XIII).
17. Assessment by transillumination of the newborn (Course objectives I-VII,VIII-XIII).

Completion of additional competencies is expected as evidence of progress in clinical performance of skills and knowledge.
It is strongly suggested that the student perform a minimum of two practices (peer review or instructor review) prior to clinical performance evaluation. The student may, however, choose not to complete the practices (must be documented) and move directly to the evaluation process. If the student does not successfully complete the evaluation process, they will have one additional attempt. Failure to successfully complete the performance evaluation after two attempts will result in termination from the program. The above competency list does not suggest the student is limited to those listed. Competencies that are unsatisfactory or lacking need to be completed by end semester schedule.

Preceptor’s evaluation of Student clinical effectiveness 5%

Have no less than 5 clinical preceptor’s or instructor’s evaluations completed per DataArc by the end of the clinical schedule. Student must score at least a 3 or better on each evaluation. Preceptor is not to be the same rater, except it be an instructor. Student must validate each evaluation in order to receive credit.

Assessment Sheet (Course Objectives I-XVIII) 5%

In RSPT 2267, ONE patient assessment sheet for each scheduled week in ICU. The date on the assessment sheet will reflect the day the student assumed patient care. The assessment sheet will be due on the week of assignment or the next following class day. Thereafter, it will be considered late and not accepted. If the student is absent on the scheduled ICU date, the assessment sheet will NOT be excused. I will accept a make up sheet the next scheduled ICU rotation. Indicate on the sheet by legibly writing MAKE-UP for (“date” you were absent).

Clinical Simulations (Course Objectives I-XVII) 10%

- Assigned RRT Clinical Simulation programs
  1. ACS 16 Chronic Bronchitis
  2. ACS 29 Guillain-Bare Syndrome
  3. PCS 04 Bronchiolitis
  4. PCS 14 Status Asthmaticus
  5. NCS 09 Meconium Aspiration Syndrome
  6. NCS10 Neonatal Transport

- Clinical based 100 questions examination end of semester 10%
Required Evaluations by student

- **Physician Contact Points.** 5%
  Patient Focused (face to face) = 4pts/hr
  Tutorial = 3 pts/hr
  Small group = 2pts/hr
  Large group = 1 pt/hr

  *For documentation, it’s imperative student record each contact with a description, e.g., where contact took place, what was discussed, what was outcome, etc.*

  **A minimum of 4 Patient Focused contact is expected. Failure to achieve the minimum will result in point deduction from the final course average.**

- **Evaluation of Preceptors.** 5%
  Complete at least 3 preceptor evaluations for each clinical site attended. These should not be on the same preceptor.

- **Evaluation of Clinical Site** 5%
  Complete no less than 5 evaluation on each clinical site. **Five point deduction for each missing eval. and points will be deducted from final grade.**

Grade on ACLS written examination 15%

**Accurate Record Keeping** point deductions

  - **Maintain accurate DataArc information:**
    - 1 point deduction from final grade for each evaluation not validated on DataArc log
    - 0.5 point deduction for failure to clock-in or clock out after clinical

**ATTENDANCE POLICY:**

1. Students are expected to attend all clinical rotations, actively participate in learning activities, complete all projects and demonstrate competency of designated knowledge and skills.
2. Any clinical absence must be made up at a time to be determined by the clinical instructor. It is the student’s responsibility to ensure the clinical make-up is prescheduled prior to notifying the clinical affiliate.

3. The 3\textsuperscript{rd} and thereafter absence will result in 5 points/absence deduction from the clinical grade for each incident thereafter.

POLICY ON SUBMISSION OF PROJECTS:

The projects must be completed according to the established guidelines and must be submitted on time.

COURSE CONTENT:

College-level courses may include controversial, sensitive, and/or adult material. Students are expected to have the readiness for college-level rigor and content.

ACADEMIC INTEGRITY:

It is the intent of Cisco College to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possible suspension.

STUDENT CONDUCT:

Students are expected to take responsibility in helping to maintain a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from the time spent in class, students are prohibited from using cell phones or beepers making offensive remarks, sexual innuendos, reading material not related to class, sleeping, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, at a minimum, in a request to leave class. A more detailed list of inappropriate behaviors is found in the current student handbook.

CHANGES TO THE SYLLABUS:

The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

Revised 1/16

STUDENTS WITH SPECIAL NEEDS:

Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.
TECHNOLOGY INTEGRATION
Respiratory care courses involve the use technology in various forms including computerized training software and simulations students are required to complete. All courses involve internet based research assignments. Various courses require at least one research paper using basic computer word processing skills such as Microsoft Word. (Refer to evaluation methods on syllabi to see if research papers are required.) Please see your instructor if you require assistance in the use of computers and internet, or if you need special accommodations to aid you in using our computers.

SCANS Competencies: A description of all SCANS Competencies is attached.

<table>
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<tr>
<th>Resources</th>
<th>Interpersonal</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1</strong> Manages time by following course schedule and allocates times to activities on proper procedures</td>
<td><strong>2.1</strong> Participates as a Member of a Team: Completes in class group activities cooperatively with others.</td>
<td><strong>3.1</strong> Acquires and evaluates information in class and through reading assignments. Identifies data and evaluates the proper respiratory treatment.</td>
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<td><strong>1.3</strong> Manages Material and Facility Resources: Acquires appropriate supplies and equipment to demonstrate objectives</td>
<td><strong>2.3</strong> Serves Clients/Customers: Works and communicates with preceptors and patients during clinical rotation on specific respiratory treatments</td>
<td><strong>3.2</strong> Organizes and Maintains Information: Organize, process, and maintains reports and forms utilized in respiratory procedures in a systematic fashion.</td>
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<td></td>
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<td><strong>3.3</strong> Uses Computers to Process Information: Uses computers to acquire, organize, and analyze</td>
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</table>
Technology  

5.1 Selects Technology: Identifies procedures and utilizes the proper tools, machines and computers to produce the desired results needed in patient care.

Basic Skills  

6.1 Reading: Carefully assimilates materials including all reading assignments and prioritizes and interprets information to provide accurate usage of treatment devices.

6.2 Writing: Communicates thoughts, ideas and messages through the completion of written assignments. Records information accurately.

6.4 Mathematics: Chooses appropriate mathematical techniques from patient data collected and understands the principles on why that particular treatment is selected.

6.5 Listening: Student will listen to preceptor and patient to understand both verbal and nonverbal communication. Student will critically analyze information presented during rotation for clarity and accuracy.

6.6 Speaking: Organizes ideas for selections of treatment and communicates thoughts orally to preceptor.

Thinking Skills  

7.2 Decision Making: Considers risks and chooses the appropriate therapy device and timing of treatment.

7.3 Problem Solving: Through case studies; identifies problems that exist, reasons for discrepancies, and implements plan of action for resolution of the problem.

7.4 Mental Visualization: Organizes and processes numerical measurements or graphs of oxygen concentration obtained from patients.

7.5 Knowing How to Learn: Recognizes and applies learning techniques that adapt new knowledge and skills in both familiar and changing situations to respiratory treatments.

7.6 Reasoning: Understands the relationship between the different forms of treatment and devices and apply them to principles in new situations and determines the best outcome.

Personal Qualities  

8.1 Responsibility: Displays high standards of attendance and punctuality during clinical rotation.

8.2 Self Esteem: Leaves course with confidence in the ability to communicate with coworkers and patients,

8.3 Sociability:  
Understands the importance of friendliness, empathy, and politeness to patients they encounter in a clinical setting.

8.4 Self Management:  
Manages time effectively. Responds positively to feedback from
constructive advise during clinical rotation.

8.5 Integrity/Honesty:
Exhibits professional behavior and understands the impact of what could happen to the student or patient when healthcare codes are violated.

SCANS COMPETENCIES

SCANS COMPETENCIES WITH DEFINITIONS

1.0 RESOURCES

- 1.1 Manages Time: Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- 1.2 Manages Money: Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
- 1.3 Manages Materials and Facility Resources: Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
- 1.4 Manages Human Resources: Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

2.0 INTERPERSONAL

- 2.1 Participates as a Member of a Team: Works cooperatively with others and contributes to group with ideas, suggestions, and effort.
- 2.2 Teaches Others: Helps others to learn.
- 2.3 Serves Clients/Customers: Works and communicates with clients and customers to satisfy their expectations.
- 2.4 Exercises Leadership: Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups; including responsibility challenging existing procedures, policies, or authority.
- 2.5 Negotiates: Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.
- 2.6 Works with Cultural Diversity: Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

3.0 INFORMATION
• 3.1 Acquires and Evaluates Information: Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy.
• 3.2 Organizes and Maintains Information: Organizes, processes, and maintains written or computerized reports in other forms of information in a systematic fashion.
• 3.3 Uses Computers to Process Information: Employs computers to acquire, organize, analyze, and communicate information.

4.0 SYSTEMS
• 4.1 Understands Systems: Knows how social, organizational, and technological systems work and operates effectively within them.
• 4.2 Monitors and Corrects Performance: Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system/organization, and takes necessary action to correct performance.
• 4.3 Improves and Designs Systems: Makes suggestions to modify existing systems to improve products or services, and develops new or alternative systems.

5.0 TECHNOLOGY
• 5.1 Selects Technology: Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.
• 5.2 Applies Technology to Task: Understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems.
• 5.3 Maintains and Troubleshoots Technology: Prevents, identifies, or solves problems in machines, computers and other technologies.

SCANS FOUNDATION SKILLS
6.0 BASIC SKILLS
• 6.1 Reading: Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.
• 6.2 Writing: Communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject-matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.
• 6.3 Arithmetic: Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.
6.4 Mathematics: Approaches practical problems by choosing appropriately from a variety of mathematical techniques; uses quantitative data to construct logical explanations for real world situations; expresses mathematical ideas and concepts orally and in writing; and understands the role of chance in the occurrence and prediction of events.

6.5 Listening: Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose; for example, to comprehend; to learn, to critically evaluate; to appreciate, or to support the speaker.

6.6 Speaking: Organizes ideas and communicates oral messages appropriate to listeners and situations; participates in conversation, discussion and group presentations; selects an appropriate medium for conveying a message; uses verbal language and other cues such as body language appropriate in style, tone, and level of complexity to the audience and the occasion; speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed.

7.0 THINKING SKILLS

7.1 Creative Thinking: Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.

7.2 Decision Making: Specifies goals and constraints, generates alternatives, considers risks and evaluates and chooses best alternatives.

7.3 Problem Solving: Recognizes that a problem exists (i.e., there is a discrepancy between what is and what should or could be), identifies possible reasons for the discrepancy, and devises and implements a plan of action to resolve it. Evaluates and monitors progress, and revises plan as indicated by findings.

7.4 Mental Visualization: Organizes and processes symbols, pictures, graphs, objects, or other information; for example, sees a building from a blueprint, a system’s operation from schematics, the flow of work activities from narrative descriptions, or the taste of food from reading a recipe.

7.5 Knowing How To Learn: Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

7.6 Reasoning: Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

8.0 PERSONAL QUALITIES

8.1 Responsibility: Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention
to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

- **8.2 Self-Esteem**: Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others; and knows own emotional capacity and needs and how to address them.

- **8.3 Sociability**: Demonstrates understanding, friendliness, adaptability, empathy, and politeness in new and ongoing group settings. Asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

- **8.4 Self-Management**: Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals, monitors progress goal attainment and motivates self through goal achievement; exhibits self-control and responds to feedback unemotionally and non-defensively, is a “self-starter.”

- **8.5 Integrity/Honesty**: Can be trusted. Recognizes when faced with making a decision or exhibiting behavior that may break with commonly held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action.
Cisco College  
Abilene Educational Center  
RSPT 2305 Pulmonary Diagnostics  
Spring Semester Second Year

INSTRUCTOR:  Jeff Lawrence, MS, RRT, RCP

OFFICE:      AEC Office # 40

TELEPHONE:   AEC 794-4507  jeff.lawrence@cisco.edu

OFFICE HOURS: Variable, by appointment only

COURSE DESCRIPTION: The theories and techniques involved in pulmonary function testing, blood gas analysis, quality control, and noninvasive monitors.

TIME ALLOTMENT:  Spring Semester  Credit: 3 semester hours  
Lecture Hours: 2  Experience Hours: 4

PR-REQUISITES: RSPT 2210, RSPT 1240

PURPOSE AND LEARNING OUTCOMES OF THE COURSE:

The purpose of this course is to provide a structured learning experience during which the student will be able to apply theory, skills and concepts in a clinical setting. This skill and knowledge based experience is responsive to the outcome competencies developed by the Committee on Accreditation for Respiratory Care for graduates of an advanced level respiratory care program.

The learner will:

- Explain pulmonary function testing
- Interpret pulmonary function test results
- Describe principles/concepts involved in blood gas analysis
- Explain quality control for pulmonary function testing and blood gas analysis
- Describe the application of noninvasive monitors.

COURSE OBJECTIVES: The following list of course goals will be addressed in the course.

1. identify airway obstruction using FVC & FEVI
2. differentiate between obstruction & restriction as causes of reduced vital capacity
3. distinguish between large & small airway obstruction using flow volume curves
determine whether there is significant response to bronchodilators
recognize abnormal values for airway resistance and compliance
determine whether spirometry is acceptable and reproducible
describe the measurement of lung volumes using the open and closed circuit methods
explain the advantages of measuring lung volumes using the body plethysmography
calculate residual volume, total lung capacity, functional residual capacity and related lung volumes
identify uneven distribution of gas in the lungs by single or multiple breath nitrogen techniques
compare and contrast diffusing capacity measurements made using single breath & steady state methods
differentiate between obstructive & restrictive diseases as causes of decreased diffusing capacity
describe the definition, etiology and clinical picture of selected pulmonary diseases
describe the diagnosis, treatment and prognosis of selected pulmonary diseases
list indications, advantages and complications of arterial lines
demonstrated drawing and analyzing blood samples from arterial lines
demonstrate the ability to use the Henderson-Hasselbalch formula to obtain pH, PCO2 & HCO3
demonstrate the ability to calculate the A-vDO2
demonstrate the ability to calculate shunt
describe the parts, operation, types and usage of spirometry equipment, e.g., bedside spirometry
demonstrate obtaining, calculating and interpreting tests of simple spirometry
describe principles of operation of blood gas electrodes
demonstrate the calibration and maintenance of blood gas machines
describe the quality assurance for blood gas machines
define minute ventilation
define minute alveolar ventilation
demonstrate the ability to calculate minute ventilation and minute alveolar ventilation
describe the significance, normal values and abnormal values for minute and alveolar ventilation
demonstrate the ability to calculate types of deadspace
list causes and significance of deadspace disease
describe normal values, significance and pathologic changes for different types of V/Q units
demonstrate the ability to calculate the VD/VT ratio
demonstrate the ability to calculate the A-a gradient
demonstrate the ability to calculate the a/A ratio, a/FiO2
identify normal and abnormal waveforms for end tidal CO2 (capnography)
identify techniques of advanced cardiopulmonary monitoring (hemodynamics)
demonstrate the ability to explain timed walk test
38. identify principles of overnight oximetry
39. identify indications for bronchoscopy procedure
40. describe the therapist role during bronchoscopy
41. describe proper handling of specimen during bronchoscopy e.g., bronchoalveolar lavage
42. identify principles of gas analyzers e.g., CO, He, O2 ; flow metering devices
43. describe the therapist role in chest insertion and caring for vacuum systems
44. describe the therapist role during tracheotomy
45. describe the therapist role in conscious sedation, assisting with cardioversion, Intubation and thoracentesis

COURSE STRUCTURE:

This course will meet on Monday 13:00 – 15:30 and Wednesday 08:00 – 10:00

EXIT COMPETENCIES:

Upon completion of this course the student will have these skills:

1. Use appropriate terminology related to various respiratory therapy and pulmonary diagnostic equipment used in the treatment and diagnosis of cardiopulmonary diseases.
2. Demonstrate the ability to interact appropriately and professionally with patients, patient’s family members and other health care team members.
3. Demonstrate knowledge of patient medical record.
4. Demonstrate the ability to apply appropriate legal, ethical, interpersonal and team work principles when performing the role of the respiratory care practitioner.
5. Explain the mode of action, clinical indications, dosages, hazards, and side effects of drugs used in the pulmonary function laboratory.
6. Demonstrate the ability to critically analyze, interpretation and apply diagnostic procedures, tests, and collection of patient data.
7. Demonstrate proficiency and knowledge of theory as applied to diagnostic equipment used in the pulmonary function laboratory and other designated clinical setting.

COURSE TEXT:

Egan’s Fundamentals of Respiratory Care, 10th edition. Chapters 18 & 19
Lecture Notes and handouts

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:

The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to
utilize this material for optimum development. Students are invited and encouraged to explore any additional resources, including the Internet, which can be accessed in the computer lab in room # 157 and the professional journals in the Library, Rooms, 123 and 129. Students can also access CC library by logging on to the web site at www.cisco.edu

**EVALUATION METHODS, INCLUDING GRADING:**

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
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<tr>
<td>B</td>
<td>80-89%</td>
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<td>C</td>
<td>75-79%</td>
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<td>D</td>
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- Exams 25%
- Quiz 25%
- Final exam 50%

In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit toward graduation from the Respiratory Care Program.

*Students who fail to complete the assigned computer programs will not be permitted to attempt the final course exam.*

**STUDENT CONDUCT:**

Students are expected to take responsibility in helping to maintain a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from the time spent in class, students are **prohibited** from using any electronic device, making offensive remarks, sexual innuendos, reading material not related to class, sleeping, or engaging in any other form of distraction. **Inappropriate** behavior in the classroom shall result, at a minimum, in a request to leave class. A more detailed list of inappropriate behaviors is found in the current student handbook.

**At no time will cell phones be allowed on desk during lecture unless approved by me. If the student has to be reminded, he/ she will be asked to leave the classroom for duration of lecture.**

**ACADEMIC CIVILITY**

Authentic respect for others requiring time, presence, engagement, and an intention to seek common ground.

**ACADEMIC INCIVILITY**

Disregard and insolence for others, causing an atmosphere of disrespect, conflict, and stress. Rude, discourteous speech or behavior that disrupts the academic
Behaviors range from misuse of cell phones, to rude and sarcastic comments, to threats or actual acts of physical harm

ATTENDANCE POLICY:

Full attendance is expected of Respiratory Care students in their course of study and attendance will be taken daily.

COURSE CONTENT:

College-level courses may include controversial, sensitive, and/or adult material. Students are expected to have the readiness for college-level rigor and content.

ACADEMIC INTEGRITY:

It is the intent of Cisco College to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possibly suspension.

CHANGES TO THE SYLLABUS:

The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

Revision 1/2016

STUDENTS WITH SPECIAL NEEDS:

Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.
TECHNOLOGY INTEGRATION
Respiratory care courses involve the use technology in various forms including computerized training software and simulations students are required to complete. All courses involve internet based research assignments. Various courses require at least one research paper using basic computer word processing skills such as Microsoft Word. (Refer to evaluation methods on syllabi to see if research papers are required.) Please see your instructor if you require assistance in the use of computers and internet, or if you need special accommodations to aid you in using our computers.

SCANS Competencies: A description of all SCANS Competencies is attached.

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**5.0 TECHNOLOGY**

- **5.1 Selects Technology**: Judges which set of procedures, tools, or machines, including computers and their programs will produce the desired results.
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SCANS FOUNDATION SKILLS

6.0 BASIC SKILLS

- **6.1 Reading:** Locates, understands, and interprets written information in prose and documents – including manuals, graphs, and schedules to perform tasks. Learns from text by determining the main idea or essential message; identifies relevant details, facts, and specifications; infers or locates the meaning of unknown or technical vocabulary, and judges the accuracy, appropriateness, style, and plausibility of reports, proposals, or theories of other writers.

- **6.2 Writing:** Communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, flow charts; uses language, style, organization, and format appropriate to the subject-matter, purpose, and audience. Includes supporting documentation and attends to level of detail; checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling, and punctuation.

- **6.3 Arithmetic:** Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator, and uses tables, graphs, diagrams, and charts to obtain or convey quantitative information.

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7.5 **Knowing How To Learn:** Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations. Involves being aware of learning tools such as personal learning styles (visual, aural, etc.), formal learning strategies (note taking or clustering items that share some characteristics), and informal learning strategies (awareness of unidentified false assumptions that may lead to faulty conclusions).

7.6 **Reasoning:** Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem. For example, uses logic to draw conclusions from available information, extracts rules or principles from a set of objects or written text; applies rules and principles to a new situation, or determines which conclusions are correct when given a set of facts and a set of conclusions.

8.0 **PERSONAL QUALITIES**

8.1 **Responsibility:** Exerts a high level of effort and perseverance towards goal attainment. Works hard to become excellent at doing tasks by setting high standards. Works hard to become excellent at doing tasks by setting high standards, paying attention to details, working well and displaying a high level of concentration even when assigned an unpleasant task. Displays high standards of attendance, punctuality, enthusiasm, vitality, and optimism in approaching and completing tasks.

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Cisco College
Abilene Educational Center
RSPT 2355 Critical Care Monitoring
Spring 2016

INSTRUCTOR: Melody Cusson, MA, M.Ed., RRT, RCP

OFFICES: Cisco College AEC Office # 39

TELEPHONE: Cisco College AEC # 794-4506
Melody.cusson@cisco.edu

OFFICE HOURS: Variable, By Appointment Only

COURSE DESCRIPTION: This course addresses advanced monitoring techniques used to assess a patient in critical care. Laboratory fee charged.

TIME ALLOTMENT: Semester: Fall Credit: 3 semester hours
Lecture Hours: 4 Clinical/Laboratory hours: 1

PRE-REQUISITES: RSPT 1329, RSPT 1160, RSPT 1331, RSPT 2314, RSPT 2210, RSPT 1266, RSPT 1267 and RSPT 2266

PURPOSE AND LEARNING OUTCOMES OF THIS COURSE:
The purpose of this course is to describe the principles/techniques involved in critical care monitoring; interpret patient data and apply data to evaluate cardiopulmonary disorders. An in-depth study of specific ventilators used in adult ventilation to include traditional and proposed ventilator classification, method of operation, parameter interrelationships and ventilator patient monitoring.
The learner will:
- Discuss ventilator analysis of several contemporary volume, time, pressure and flow-cycled ventilators
- Describe ventilator waveforms and graphic application
- Discuss the monitoring techniques used in the ICU to evaluate lung and chest wall mechanics and work of breathing.
- Describe the effects of Auto-Peep on cardiac output

COURSE OBJECTIVES:
The following list of course goals will be addressed in the course. These goals are directly related to the performance objectives.

1. Describe ventilator systems classification

2. Identify various ventilator waveforms & graphic application
*3 Describe new applications of ventilation
*4 Describe Hybrid Modes of Ventilation
*5 Describe alternative methods of ventilation
*6 Apply proper mechanical ventilation changes using ventilator waveforms and graphics.
*7 Identify over distention on ventilator graphics
*8 Identify lung compliance changes with ventilator graphics

COURSE STRUCTURE: This course will meet for lecture and classroom activities Monday, Wednesday 10:15 until 12:00

EXIT COMPETENCIES:
- State ventilator classification
- Identify ventilator waveforms and graphics

COURSE TEXT:
Chang, Clinical Application of Mechanical Ventilation, 4th edition
Selected article readings from Respiratory Care Journal
Oakes', Respiratory Simulation

RECOMMENDED OPTIONAL MATERIALS AND LIBRARY RESOURCES:

The materials listed above are primary sources for the student. However, in order for the learner to achieve mastery of particular respiratory therapist principles and skills, the faculty may use and/or recommend additional materials. The student has the responsibility to utilize this material for optimum development. Students are invited and encouraged to explore any additional resources, including the Internet, which can be accessed in the computer lab in room # 157 and the professional journals in the Library, rooms, 123 and 129. Students can also access Cisco College library by logging on to the web site at www.cisco.edu

Technology Integration
Respiratory care courses involve the use technology in various forms including computerized training software and simulations students are required to complete. All courses involve internet based research assignments. Various courses require at least one research paper using basic computer word processing skills such as Microsoft Word. (Refer to evaluation methods on syllabi to see if research papers are required.) Please see your instructor if you require assistance in the use of computers and internet, or if you need special accommodations to aid you in using our computers.
EVALUATION METHODS, INCLUDING GRADING:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Triads</td>
<td>10%</td>
</tr>
<tr>
<td>Articles</td>
<td>20%</td>
</tr>
<tr>
<td>Exams</td>
<td>40%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
</tr>
<tr>
<td>Final Grade</td>
<td>100%</td>
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</tbody>
</table>

In order to facilitate the transfer of grades for evaluation and college credits, the following grading scale will be utilized.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>C</td>
<td>75-79%</td>
<td>C</td>
</tr>
<tr>
<td>D</td>
<td>60-74</td>
<td>D</td>
</tr>
<tr>
<td>F</td>
<td>&lt;59%</td>
<td>F</td>
</tr>
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</table>

In accordance with the Respiratory Care Program standards for minimal competency a course grade of C or better must be earned to receive credit.

ATTENDANCE POLICY:

Full attendance is expected of Respiratory Care students in their course of study and attendance will be taken daily.

The 3rd (total) absence in any RSPT course will result in 5 points being deducted from the clinical grade for each incident. I.e. the 3rd incident will result in the starting grade of “90”. Additional 5 points will be deducted if clinical make up is not scheduled within 14 days.

COURSE CONTENT:

College-level courses may include controversial, sensitive, and/or adult material. Students are expected to have the readiness for college-level rigor and content.

ACADEMIC INTEGRITY:

It is the intent of Cisco College to foster a spirit of complete honesty and a high standard of integrity. The attempt of students to present as their own any work they have not honestly performed is regarded by the faculty and administration as a serious offense and renders the offender liable to serious consequences, possible suspension.

STUDENT CONDUCT:

Students are expected to take responsibility in helping to maintain a classroom environment that is conducive to learning. In order to assure that all students have the opportunity to gain from the time spent in class, students are prohibited from using cell phones or beepers, making offensive remarks, reading material not related to class, sleeping, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result, at a minimum, in a request to leave class. A more detailed list of inappropriate behaviors is found in the current student handbook.

CHANGES TO THE SYLLABUS:
The schedule and procedures in this syllabus are subject to change if deemed appropriate by the instructor.

**STUDENTS WITH SPECIAL NEEDS:**
Students who qualify for specific accommodations under the Americans with Disabilities Act (ADA) should notify the instructor the first week of class. It is the student’s responsibility to provide the necessary documentation to the Special Populations Coordinator.

**SCANS Competencies:** A description of all SCANS Competencies is attached.

<table>
<thead>
<tr>
<th>Resources</th>
<th>Interpersonal</th>
<th>Information</th>
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</thead>
<tbody>
<tr>
<td>1.1 Manages time by following course schedule.</td>
<td>2.1 Participates as a Member of a Team: Completes in class group activities cooperatively with others.</td>
<td>3.1 Acquires and evaluates information in class and through reading assignments.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Technology</th>
<th>Basic Skills</th>
<th>Thinking Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Selects Technology: Utilizes tools and machines including computers and their programs in order to complete assignments effectively.</td>
<td>6.1 Reading: Carefully assimilates materials including all reading assignments and prioritizes and interprets information.</td>
<td>7.1 Creative Thinking: Connects theory with practice and formulates new personal goals.</td>
</tr>
<tr>
<td></td>
<td>6.2 Writing: Communicates thoughts, ideas and messages through the completion of written assignments.</td>
<td>7.2 Decision Making: Considers risks involved in proper lifting of patients and evaluates appropriate alternative.</td>
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<tr>
<td></td>
<td>6.3 Arithmetic: Analyze numerical concepts in practical situations using graphs and charts to convey lung volumes and capacities.</td>
<td>7.3 Problem Solving: Through case studies; identifies problems that exist, reasons for discrepancies, and implements plan of action for resolution of the problem.</td>
</tr>
<tr>
<td></td>
<td>6.5 Listening: Student will listen to lectures, and respond utilizing both verbal and nonverbal communication.</td>
<td>7.6 Reasoning: Utilize the rule or principle underlying the relationship</td>
</tr>
</tbody>
</table>
Student will critically analyze information presented in classroom for clarity and accuracy.

**6.6 Speaking:** Organizes ideas for presentation and uses proper terminology in communicating messages.

<table>
<thead>
<tr>
<th>Personal Qualities</th>
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<tbody>
<tr>
<td><strong>8.1 Responsibility:</strong> Displays high standards of attendance and punctuality in class.</td>
<td></td>
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<tr>
<td><strong>8.2 Self Esteem:</strong> Leaves course with confidence in the ability to communicate with coworkers.</td>
<td></td>
</tr>
<tr>
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</tr>
</tbody>
</table>

**SCANS COMPETENCIES**

SCANS COMPETENCIES WITH DEFINITIONS

1.0 RESOURCES

- **1.1 Manages Time:** Selects relevant, goal-related activities, ranks them in order of importance, allocates time to activities, and understands, prepares, and follows schedules.
- **1.2 Manages Money:** Uses or prepares budgets, including making cost and revenue forecasts, keeps detailed records to track budget performance, and makes appropriate adjustments.
- **1.3 Manages Materials and Facility Resources:** Acquires, stores, and distributes materials, supplies, parts, equipment, space, or final products in order to make the best use of them.
• 1.4 Manages Human Resources: Assesses knowledge and skills and distributes work accordingly, evaluates performance, and provides feedback.

2.0 INTERPERSONAL
• 2.1 Participates as a Member of a Team: Works cooperatively with others and contributes to group with ideas, suggestions, and effort.
• 2.2 Teaches Others: Helps others to learn.
• 2.3 Serves Clients/Customers: Works and communicates with clients and customers to satisfy their expectations.
• 2.4 Exercises Leadership: Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups; including responsibility challenging existing procedures, policies, or authority.
• 2.5 Negotiates: Works toward an agreement that may involve exchanging specific resources or resolving divergent interests.
• 2.6 Works with Cultural Diversity: Works well with men and women and with a variety of ethnic, social, or educational backgrounds.

3.0 INFORMATION
• 3.1 Acquires and Evaluates Information: Identifies need for data, obtains it from existing sources or creates it and evaluates its relevance and accuracy.
• 3.2 Organizes and Maintains Information: Organizes, processes, and maintains written or computerized reports or other forms of information in a systematic fashion.
• 3.3 Uses Computers to Process Information: Employs computers to acquire, organize, analyze, and communicate information.

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• 4.1 Understands Systems: Knows how social, organizational, and technological systems work and operates effectively within them.
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Revised 1/16 mgc