

# Para-Medical Program

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|--------------------------|-------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>    |
| <b>Course Number</b>     | <b>21102141</b>               |
| <b>Course Title</b>      | <b>Foundations of nursing</b> |
| <b>Credit Hours</b>      | <b>(3)</b>                    |
| <b>Theoretical Hours</b> | <b>(3)</b>                    |
| <b>Practical Hours</b>   | <b>(0)</b>                    |

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### **Brief Course Description:**

❖ This course serves as a base for the other nursing courses it is designed to provide the first year student with the basic nursing concepts and principles needed for the practice of nursing. The course emphasizes the student's understanding of the nature of the client needs and the intervention required utilizing the functional health patterns such as activity/ exercise, nutrition and elimination.

### **Course Objectives:**

Upon the completion of the course, the student will be able to:

1. Value primary health care practices as a part of the Associate Degree nursing role
2. Discuss concepts related to functional health patterns and their utilization in providing nursing care for client.
3. Understand the nursing process as a framework for providing nursing care for a client with selected alterations in function health patterns.
4. Describe the principles underlying effective recording and reporting/ documenting of nursing interventions.
5. Recognize the principles underlying all nursing intervention produces related to providing care to client in different care settings.
6. Apply the principles of infection prevention in any clinical setting.
7. Develop an awareness concerning the importance of health promotion for the individual, the family and the community.
8. Understand the continuum of nursing care from assessment of vital signs to more complex physical assessment procedures.

### **Detailed Course Description:**

| Unit Number | Unit Name        | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Time Needed |
|-------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Nursing process. | <ul style="list-style-type: none"> <li>▪ Overview of the nursing process.</li> <li>▪ Characteristics of nursing process.</li> <li>▪ Assessment.                             <ul style="list-style-type: none"> <li>– Collection of data.</li> <li>– Types of data.</li> <li>– Source of data.</li> <li>– Data collection methods.</li> <li>– Organizing data.</li> <li>– Validating data.</li> <li>– Documenting data.</li> </ul> </li> <li>▪ Diagnosis                             <ul style="list-style-type: none"> <li>– Definition.</li> <li>– Types of nursing diagnosis.</li> <li>– Components.</li> <li>– Formulating diagnostic statements.</li> </ul> </li> <li>▪ Planning.                             <ul style="list-style-type: none"> <li>– Types of planning.</li> <li>– Developing nursing care plan.</li> <li>– Guidelines of writing N.C.P.</li> <li>– Planning process.</li> <li>– Establishing client goals / desired outcomes.</li> <li>– Writing nursing order.</li> </ul> </li> <li>▪ Implementing action                             <ul style="list-style-type: none"> <li>– Process of implementing.</li> <li>– Evaluation.</li> <li>– Process of evaluating client responses.</li> </ul> </li> <li>▪ Documenting and Reporting.                             <ul style="list-style-type: none"> <li>– Purposes of client record.</li> <li>– Documentation system.</li> <li>– Admission nursing assessment.</li> <li>– Nursing discharge and referral.</li> <li>– Guideline for recording.</li> <li>– Reporting</li> </ul> </li> </ul> |             |

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| <p>2.</p> | <p><b>Health assessment</b></p> | <p><b>A. Vital signs.</b></p> <ul style="list-style-type: none"> <li>- Time to assess vital signs.</li> <li>- Variations in normal vital signs by age.</li> <li>▪ <b>Body temperature.</b> <ul style="list-style-type: none"> <li>- Factors affecting body temperature.</li> <li>- Alterations in body temperature.</li> <li>- Advantages and disadvantages of four, sites for body temperature measurement.</li> <li>- Types of thermometers.</li> <li>- Temperature scales (Celsius and Fahrenheit)</li> </ul> </li> <li>▪ <b>Pulse.</b> <ul style="list-style-type: none"> <li>- Factors affecting pulse rate.</li> <li>- Pulse sites.</li> <li>- Reasons for using specific pulse site.</li> <li>- Apical – radial pulse.</li> </ul> </li> <li>▪ <b>Respiration.</b> <ul style="list-style-type: none"> <li>- Review the mechanics and regulation of breathing.</li> <li>- Assessing respiration.</li> <li>- Factors affecting respiratory rate.</li> <li>- Altered breathing patterns and sounds.</li> </ul> </li> <li>▪ <b>Blood pressure.</b> <ul style="list-style-type: none"> <li>- Factors affecting blood pressure.</li> <li>- Assessing blood pressure (equipment, sites, methods).</li> <li>- Common errors in assessing blood Pressure</li> </ul> </li> </ul> <p><b>B. Body Health Assessment.</b></p> <ul style="list-style-type: none"> <li>- Preparing the client and environment.</li> </ul> |  |
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|    |                               | <ul style="list-style-type: none"> <li>- Methods of examining.</li> <li>- General survey.</li> <li>- Head and necks.</li> <li>- Upper extremities.</li> <li>- Chest and back.</li> <li>- Abdomen.</li> <li>- Genitals.</li> <li>- Anus and Rectum.</li> <li>- Lower extremities.</li> </ul>                                                                                                                                                                                                                                                 |  |
| 3. | <b>Safety and protection.</b> | <ul style="list-style-type: none"> <li>▪ Factors affecting safety</li> <li>▪ Safety hazards throughout the life span.</li> <li>▪ Preventing specific hazards.                             <ul style="list-style-type: none"> <li>- Scales and burn.</li> <li>- Fires.</li> <li>- Falls.</li> <li>- Poisoning.</li> <li>- Suffocation or choking.</li> <li>- Electrical hazards.</li> </ul> </li> <li>▪ Restraining client.                             <ul style="list-style-type: none"> <li>- Kinds of restraints.</li> </ul> </li> </ul> |  |
| 4. | <b>Asepsis.</b>               | <ul style="list-style-type: none"> <li>▪ Review method of transmission of microorganisms.</li> <li>▪ Preventing Nosocomial infection.</li> <li>▪ Factors increasing susceptibility to infection.</li> <li>▪ Preventing infections in the home.</li> <li>▪ Cleaning, disinfecting and sterilization.</li> <li>▪ Isolation precautions.</li> <li>▪ Isolation practices.</li> <li>▪ Sterile techniques.</li> <li>▪ Sterile field.</li> <li>▪ Infection control for health care workers</li> <li>▪ Role of infection control nurse.</li> </ul>  |  |
| 5. | <b>Hygiene</b>                | <ul style="list-style-type: none"> <li>▪ Factors influencing personal hygiene</li> <li>▪ Agents commonly used on the skin.</li> <li>▪ Purpose of bathing, oral hygiene, skin, feet,</li> </ul>                                                                                                                                                                                                                                                                                                                                              |  |

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|    |                                      | <p>nails, hair, eyes ears and nose care.</p> <ul style="list-style-type: none"> <li>- Hygienic environment.</li> <li>- Hospital beds.</li> <li>- Mattresses.</li> <li>- Side rails.</li> <li>- Foot board.</li> <li>- Bed cradles.</li> </ul> <ul style="list-style-type: none"> <li>▪ Making beds. <ul style="list-style-type: none"> <li>- Occupied, unoccupied, post operative beds.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| 6. | <b>Skin integrity and wound care</b> | <ul style="list-style-type: none"> <li>▪ Infection cycle</li> <li>▪ Factors affecting skin integrity.</li> <li>▪ Pressure ulcer. <ul style="list-style-type: none"> <li>- Etiology.</li> <li>- Risk factors.</li> <li>- Common pressure site.</li> <li>- Treating pressure ulcer.</li> </ul> </li> <li>▪ Wound healing.</li> <li>▪ Factors affecting wound healing.</li> <li>▪ Dressing wound. <ul style="list-style-type: none"> <li>- Types of dressing.</li> </ul> </li> <li>▪ Heat and cold application. <ul style="list-style-type: none"> <li>- Physiologic effects of heat and cold.</li> <li>- Variables affecting physiologic tolerance to heat and cold.</li> <li>- Guide lines when applying heat and cold.</li> <li>- Supporting and immobilizing wounds. Bandages, roller Bandages, figure – eight turn, binders, . . . etc</li> </ul> </li> </ul> |  |
| 7. | <b>Activity and Exercise</b>         | <ul style="list-style-type: none"> <li>▪ Basic – elements of normal movement</li> <li>▪ Factors affecting body alignment and activity.</li> <li>▪ Joint movement.</li> <li>▪ Types of exercise (Isotonic, isometric, isokinetic, aerobic, anaerobic exercise).</li> <li>- Benefits of exercise.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |

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|     |                                                       | <ul style="list-style-type: none"> <li>- Effect of immobility.</li> <li>- Using body mechanics.</li> <li>- Positioning clients (fowlers, recumbent, dorsal recumbent, prone, lateral, Sims' etc).</li> <li>- Moving and turning clients in bed.</li> <li>- Transferring clients.</li> <li>- Providing range of motion exercise.</li> </ul>                                                                                               |  |
| 8.  | <b>Rest And Sleep.</b>                                | <ul style="list-style-type: none"> <li>▪ Physiology of sleep.</li> <li>▪ Stages of sleep.</li> <li>▪ Sleep cycle.</li> <li>▪ Function of sleep.</li> <li>▪ Normal sleep patterns and requirements</li> <li>▪ Factors affecting sleep.</li> <li>▪ Common sleep disorders.</li> </ul>                                                                                                                                                      |  |
| 9.  | <b>Pain Management.</b>                               | <ul style="list-style-type: none"> <li>▪ Nature of pain.</li> <li>▪ Types of pain.</li> <li>▪ Factors affecting the pain experience.</li> <li>▪ Pain assessment.</li> <li>▪ Barriers to pain management.</li> <li>▪ Key factors in pain management.</li> </ul>                                                                                                                                                                           |  |
| 10. | <b>Nutrition</b>                                      | <ul style="list-style-type: none"> <li>▪ Essential nutrients</li> <li>▪ Energy balance.</li> <li>▪ Body weight and body mass standards.</li> <li>▪ Factors affecting nutrition.</li> <li>▪ Nutritional variation throughout the life cycle.</li> <li>▪ Nutrition for older adult</li> <li>▪ Nasogastric tube insertion</li> </ul>                                                                                                        |  |
| 11. | <b>Fluid and electrolyte, and acid – base balance</b> | <ul style="list-style-type: none"> <li>▪ Body fluids and electrolytes (Distribution and composition)</li> <li>▪ Regulating body fluid.                             <ul style="list-style-type: none"> <li>- Fluid intake.</li> <li>- Fluid output</li> </ul> </li> <li>▪ Regulation and function of electrolytes.</li> <li>▪ Factors affecting body fluid, electrolytes, and acid – base balance.</li> <li>▪ Fluid imbalance.</li> </ul> |  |

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|     |                                    | <ul style="list-style-type: none"> <li>▪ Electrolyte imbalance</li> <li>▪ Acid base imbalance.</li> <li>▪ Normal electrolyte values for adult</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                         |  |
| 12. | <b>Fecal Elimination</b>           | <ul style="list-style-type: none"> <li>▪ Physiology of fecal elimination.</li> <li>▪ Factors that affect defecation.</li> <li>▪ Common fecal elimination problems.</li> <li>▪ Rectal tube and enema</li> </ul>                                                                                                                                                                                                                                                                                                                                   |  |
| 13. | <b>Urinary Elimination</b>         | <ul style="list-style-type: none"> <li>▪ Revision of physiology of urinary elimination.</li> <li>▪ Factors affecting urinary elimination.</li> <li>▪ Altered urine production.</li> <li>▪ Altered urine elimination.</li> <li>▪ Characteristics of normal and abnormal urine.</li> <li>▪ Guidelines that maintain normal voiding habits:                             <ul style="list-style-type: none"> <li>– Preventing urinary tract infection.</li> <li>– Urinary catheterization.</li> <li>– Use of bedpan and urinal</li> </ul> </li> </ul> |  |
| 14. | <b>Oxygenation</b>                 | <ul style="list-style-type: none"> <li>▪ Revision of the respiratory system.</li> <li>▪ Factors affecting respiratory and cardiovascular function.</li> <li>▪ Alteration in respiratory function.</li> <li>▪ Oxygen therapy methods.</li> </ul>                                                                                                                                                                                                                                                                                                  |  |
| 15. | <b>Sexuality</b>                   | <ul style="list-style-type: none"> <li>▪ Sexual health.</li> <li>▪ Development of sexuality.</li> <li>▪ Factors influencing sexuality.</li> <li>▪ Breast self examination</li> </ul>                                                                                                                                                                                                                                                                                                                                                             |  |
| 16. | <b>Loss, Grieving, and Death .</b> | <ul style="list-style-type: none"> <li>▪ Loss and grief.                             <ul style="list-style-type: none"> <li>– Types.</li> <li>– Stages.</li> </ul> </li> <li>▪ Factors influencing the loss and grief response.</li> <li>▪ Ethical and legal issues.</li> <li>▪ Dying and death.</li> <li>▪ Signs of death.</li> <li>▪ Helping clients die with dignity.</li> <li>▪ Post mortem care.</li> </ul>                                                                                                                                 |  |



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| <p>17.</p> | <p><b>Medication.</b></p>                | <ul style="list-style-type: none"> <li>▪ Selected terms,(Medication, drugs pharmacology etc.. )</li> <li>▪ Types of drug preparation</li> <li>▪ Legal aspects of drug administration.</li> <li>▪ Effects of drug.</li> <li>▪ Factors affecting medication action.</li> <li>▪ Routes of administration.</li> <li>▪ Medication orders (types)</li> <li>▪ Essential parts of a drug order.</li> <li>▪ Parts of a prescription.</li> <li>▪ Calculating dosage.</li> <li>▪ Administering medication safety.</li> <li>▪ Six "rights" of drug administration.                         <ul style="list-style-type: none"> <li>– Topical medications.</li> <li>– Ophthalmic instillations.</li> <li>– Otic instillation.</li> <li>– Vaginal instillations.</li> <li>– Rectal instillation.</li> </ul> </li> <li>▪ Respiratory inhalation.</li> <li>▪ Oral medication.</li> <li>▪ Parenteral medication(ID, SC, I.V and I.M).</li> </ul> |  |
| <p>18.</p> | <p><b>Pre-post operative nursing</b></p> | <ul style="list-style-type: none"> <li>▪ Phases of the pre operative period.</li> <li>▪ Routine pre operative screening tests.</li> <li>▪ Pre operative teaching.</li> <li>▪ Nurse role in pre operative phase.</li> <li>▪ Nurse role in intra operative phase.</li> <li>▪ Nurse role in post operative phase.</li> <li>▪ Post operative problems.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |

### Evaluation Strategies:

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Teaching Methodology:

- ❖ Lecture. Discussion. Simulation. Assignments.

### References:

1. Foundation of Nursing by Lois White and Susan, 2005.
2. Procedures Checklist to accompany foundations, Lois White (2004).
3. Fundamentals of nursing: Human health and function. Craven, R.F. & Hirnle, C.J. (2000). (3rd ed.). New Yorks: J.B. Lippincott Co.
4. Fundamentals of Nursing: Concepts, process, practice. Kozier, B., Erb. G, & Berman, A. (2000) (6th ed.). Redwood City, CA: Addison Wesley.
5. Clinical Examination. Epstein, O., Perkins, G., Bono, D., & Cookson, J. (2nd ed.). (1997) London: Mosby.

- Related articles from nursing Journals.

# Para-Medical Program

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|--------------------------|--------------------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>                 |
| <b>Course Number</b>     | <b>21102142</b>                            |
| <b>Course Title</b>      | <b>Foundations of Nursing<br/>Clinical</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                                 |
| <b>Theoretical Hours</b> | <b>(0)</b>                                 |
| <b>Practical Hours</b>   | <b>(6)</b>                                 |

### **Brief Course Description:**

❖ This course is designed to provide the student with laboratory guided experiences related to the integrated understanding of the basic nursing concepts and its practical applications to enable nursing students in performing nursing activities safely. Critical thinking and problem based learning will be emphasized.

### **Course Objectives:**

Upon the completion of the course, the student will be able to:

1. Apply a systematic approach of analyzing the client's problems to carry out a plan of action using nursing process as a framework to provide nursing care for clients with selected alterations in functional health.
2. Assess client health status utilizing a systematic approach.
3. Perform basic nursing skills related to various client conditions and the rational using principles of critical thinking.
4. Provide a safe and therapeutic environment for client care.
5. Utilize principles of medial/surgical asepsis and universal precautions in client care.
6. Utilize principles of body mechanics in positioning, transferring and ambulating the clients.
7. Prepare and administer medications safely.
8. Demonstrate the use of principles accurately in reporting and recording nursing actions and intervention and client's response

**Detailed Course Description:**

| Unit Number | Unit Name                             | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Time Needed |
|-------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | <b>Application of nursing process</b> | <ul style="list-style-type: none"> <li>▪ Admission and discharge</li> <li>▪ Reporting and recording referral.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |
| 2.          | <b>Health assessment</b>              | <ul style="list-style-type: none"> <li>▪ Assessing temperature (oral, Rectal, Axillary's, tympanic).</li> <li>▪ Assessing pulse according to pulse site. <ul style="list-style-type: none"> <li>– Assessing peripheral pulses.</li> <li>– Assessing Apical- Radial pulse.</li> </ul> </li> <li>▪ Assessing breathing.</li> <li>▪ Assessing blood pressure.</li> <li>▪ Documentation of vital signs.</li> <li>▪ Physical examination.</li> <li>▪ Apply physical examination.</li> <li>▪ Measuring height and weight.</li> </ul>                                                           |             |
| 3.          | <b>Safety and protection.</b>         | <ul style="list-style-type: none"> <li>▪ Positioning of patient.</li> <li>▪ Using side rails.</li> <li>▪ Restraints</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |
| 4.          | <b>Asepsis.</b>                       | <ul style="list-style-type: none"> <li>▪ Hand washing.</li> <li>▪ Isolation practices. <ul style="list-style-type: none"> <li>– Personal protective equipment.</li> <li>– Gloves.</li> <li>– Gowns.</li> <li>– Face mask.</li> <li>– Disposal of soiled equipment and supplies.</li> </ul> </li> <li>▪ Sterile technique. <ul style="list-style-type: none"> <li>– Establishing and maintaining a sterile field (open and close sterile package).</li> <li>– Donning and removing sterile equipments. <ul style="list-style-type: none"> <li>• Gloves</li> </ul> </li> </ul> </li> </ul> |             |

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|    |                                      | <ul style="list-style-type: none"> <li>• Gowns.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 5. | <b>Hygiene</b>                       | <ul style="list-style-type: none"> <li>▪ Bathing an adult.</li> <li>▪ Perineal – Genital care.</li> <li>▪ Foot care.</li> <li>▪ Brushing and flossing the teeth.</li> <li>▪ Cleaning artificial dentures.</li> <li>▪ Special oral care.</li> <li>▪ Shampooing the hair of a client.</li> <li>▪ Eye care for the comatose client.</li> <li>▪ Making beds.                             <ul style="list-style-type: none"> <li>– Unoccupied beds.</li> <li>– Occupied beds.</li> <li>– Post operative beds.</li> </ul> </li> <li>▪ Applying heat and cold application.</li> </ul> |  |
| 6. | <b>Skin integrity and wound care</b> | <ul style="list-style-type: none"> <li>▪ Obtaining a specimen of wound drainage.</li> <li>▪ Wound dressing.</li> <li>▪ Securing dressing.</li> <li>▪ Cleaning wound.</li> <li>▪ Wound irrigation.</li> <li>▪ Immobilizing wounds.                             <ul style="list-style-type: none"> <li>– Bandages.</li> <li>– Figure – eight.</li> <li>– Binder ... etc.</li> </ul> </li> </ul>                                                                                                                                                                                  |  |
| 7. | <b>Activity and Exercise</b>         | <ul style="list-style-type: none"> <li>▪ Using body mechanics.                             <ul style="list-style-type: none"> <li>– Lifting.</li> <li>– Pulling and pushing.</li> <li>– Pivoting.</li> <li>– Positioning of client.</li> <li>– Moving a client up in bed.</li> <li>– Turning a client to lateral or prone position in bed</li> <li>– Moving a client to a sitting position.</li> <li>– Transferring a client between a bed and a chair.</li> <li>– Transferring a client between a bed and a stretcher.</li> </ul> </li> </ul>                                 |  |

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|     |                                                       | <ul style="list-style-type: none"> <li>- Providing a ROM exercises.</li> <li>- Assisting a client to walk.</li> <li>- Using mechanical aids for walking.</li> </ul>                                                                                                                                                                                                  |  |
| 8.  | <b>Rest And Sleep.</b>                                | <ul style="list-style-type: none"> <li>▪ Back massage.</li> </ul>                                                                                                                                                                                                                                                                                                    |  |
| 9.  | <b>Pain Management.</b>                               | <ul style="list-style-type: none"> <li>▪ Pharmacological and non pharmacological pain management</li> </ul>                                                                                                                                                                                                                                                          |  |
| 10. | <b>Nutrition</b>                                      | <ul style="list-style-type: none"> <li>▪ Assisting clients with meals.</li> <li>▪ Inserting nasogastric tube.</li> <li>▪ Daily care of NGT.</li> <li>▪ Removing nasogastric tube.</li> <li>▪ Administering tube feeding.</li> </ul>                                                                                                                                  |  |
| 11. | <b>Fluid and electrolyte, and acid – base balance</b> | <ul style="list-style-type: none"> <li>▪ Intravenous infusion.</li> <li>▪ Monitoring I.V infusion.</li> <li>▪ Blood transfusion.</li> <li>▪ Documenting intake &amp; output.</li> </ul>                                                                                                                                                                              |  |
| 12. | <b>Fecal Elimination</b>                              | <ul style="list-style-type: none"> <li>▪ Giving and removing bed pan.</li> <li>▪ Administering an enema.</li> <li>▪ Administering a rectal tube.</li> <li>▪ Obtaining stool specimens.</li> </ul>                                                                                                                                                                    |  |
| 13. | <b>Urinary Elimination</b>                            | <ul style="list-style-type: none"> <li>▪ Measuring urinary output</li> <li>▪ Measuring residual urine.</li> <li>▪ Collecting urine specimens.</li> <li>▪ Clean voided specimen.</li> <li>▪ Clean – catch or mid stream specimen</li> <li>▪ Urinary catheterization and daily care.</li> <li>▪ Offering and removing bedpan and urinal.</li> </ul>                    |  |
| 14. | <b>Oxygenation</b>                                    | <ul style="list-style-type: none"> <li>▪ Using a pulse oximeter.</li> <li>▪ Sputum specimens.</li> <li>▪ ECG.</li> <li>▪ Deep breathing and coughing.</li> <li>▪ Postural drainage.</li> <li>▪ Oxygen therapy.</li> <li>▪ O<sub>2</sub> by canula, face mask, and nasal catheter.</li> <li>▪ Suctioning.</li> <li>▪ Chest tubes and drainage system care.</li> </ul> |  |
| 15. | <b>Loss, Grieving, and Death .</b>                    | <ul style="list-style-type: none"> <li>▪ Care of dead body.</li> </ul>                                                                                                                                                                                                                                                                                               |  |

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| <p>16.</p> | <p><b>Medication.</b></p>                | <ul style="list-style-type: none"> <li>▪ Administering oral medications.</li> <li>▪ Parenteral medications.                             <ul style="list-style-type: none"> <li>– Intradermal.</li> <li>– Subcutaneous.</li> <li>– Intramuscular.</li> <li>– Intravenous.</li> </ul> </li> <li>▪ Preparing from ampoules.</li> <li>▪ Preparing from vials.</li> <li>▪ Mixing medication in one syringe.</li> <li>▪ Topical medication                             <ul style="list-style-type: none"> <li>– Skin application</li> <li>– Ophthalmic instillation.</li> <li>– Otic.</li> <li>– Vaginal.</li> <li>– Rectal instillations.</li> <li>– Respiratory inhalation.</li> </ul> </li> </ul> |  |
| <p>17.</p> | <p><b>Pre-post operative nursing</b></p> | <ul style="list-style-type: none"> <li>▪ Pre operative teaching.                             <ul style="list-style-type: none"> <li>– Moving.</li> <li>– Leg exercises.</li> <li>– Deep breathing and coughing exercises.</li> </ul> </li> <li>▪ Apply embolic stocking.</li> <li>▪ Gastrointestinal suction.</li> <li>▪ Cleaning a sutured wound and applying a sterile dressing.</li> <li>▪ Shortening a drain.</li> <li>▪ Removing surgical clips</li> </ul>                                                                                                                                                                                                                                |  |



### Evaluation Strategies:

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Teaching Methodology:

- ❖ Laboratory demonstration , Group work

### Text Books & References:

#### References:

1. Foundation of Nursing, by Lois White and Susan, 2005.
  2. Procedures Checklist to accompany foundations Lois White (2004).
  3. Fundamentals of nursing: Human health and function. Craven, R.F. & Hirnle, C.J. (2000). (3rd ed.). New Yorks: J.B. Lippincott Co.
  4. Fundamentals of Nursing: Concepts, process, practice. Kozier, B., Erb. G, & Berman, A. (2000) (6th ed.). Redwood City, CA: Addison Wesley.
  5. Clinical Examination. Epstein, O., Perkins, G., Bono, D., & Cookson, J. (1997) (2nd ed.). London: Mosby.
- Related articles form nursing journals.

# Para-Medical Program

|                          |                               |
|--------------------------|-------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>    |
| <b>Course Number</b>     | <b>21124211</b>               |
| <b>Course Title</b>      | <b>Respiratory Assessment</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                    |
| <b>Theoretical Hours</b> | <b>(1)</b>                    |
| <b>Practical Hours</b>   | <b>(3)</b>                    |

**Brief Course Description:**

This course is designed to provide the student with the basic nurses contribute significantly to the care of patients with respiratory problems by taking a comprehensive history and performing a thorough physical examination. This information allows the student to establish a baseline level of assessment of the patient's status and provides a framework for detection of rapid changes in the patient's condition.

The course emphasizes the student's understanding of the nature of the client needs and the intervention required utilizing the Physical Examination, Respiratory Monitoring and Respiratory Diagnostic Studies.

### **Objectives:**

Based on the content in this course, the student should be able to:

1. Describe the components of the history for respiratory assessment.
2. Explain the use of inspection, palpation, percussion, and auscultation for respiratory assessment.
3. Discuss the purpose of pulse oximetry.
4. Compare and contrast the arterial oxygen saturation and the partial pressure of oxygen dissolved in arterial blood.
5. Describe the purpose of end-tidal carbon dioxide monitoring.
6. Explain the components of an arterial blood gas and the normal values for each component.
7. Compare and contrast the causes, signs, and symptoms of respiratory acidosis, respiratory alkalosis, metabolic acidosis, and metabolic alkalosis.
8. Analyze examples of an arterial blood gas result.
9. Describe the purpose of mixed venous oxygen saturation monitoring.
10. Discuss the purpose of respiratory diagnostic studies and associated nursing implications.

**Detailed Course Description:**

| Unit Number | Unit Name            | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Time Needed |
|-------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | History              | <ul style="list-style-type: none"> <li>❖ Chief Complaint and History of Present Illness:                             <ul style="list-style-type: none"> <li>▪ Dyspnea</li> <li>▪ Chest Pain</li> <li>▪ Sputum Production</li> <li>▪ Cough</li> </ul> </li> <li>❖ Major Components of Clinical History:                             <ul style="list-style-type: none"> <li>▪ Past Medical History</li> <li>▪ Family History</li> <li>▪ Personal and Social History</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |
| 2.          | Physical Examination | <ul style="list-style-type: none"> <li>❖ Inspection                             <ul style="list-style-type: none"> <li>Components of the inspection process in the physical assessment of the respiratory system.</li> <li>Cyanosis.</li> <li>Labored Breathing.</li> <li>The Anterior–Posterior Diameter of the Chest.</li> <li>Chest Deformities and Scars.</li> <li>Patient’s Posture.</li> <li>Position of the Trachea.</li> <li>Respiratory Rate.</li> <li>Depth of Respiration.</li> <li>Duration of inspiration versus the duration of expiration.</li> <li>Patient’s extremities.</li> </ul> </li> <li>❖ Palpation                             <ul style="list-style-type: none"> <li>Normal chest.</li> <li>Barrel.</li> <li>Kyphosis.</li> <li>Tactile fremitus.</li> <li>Palpating chest expansion.</li> <li>Palpating the trachea.</li> </ul> </li> <li>❖ Percussion                             <ul style="list-style-type: none"> <li>Percussing the thorax</li> <li>Posterior thorax.</li> <li>Anterior thorax.</li> <li>Description of percussion sounds associated with various respiratory pathologies.</li> </ul> </li> </ul> |             |

|    |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|----|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                                        | <p>❖ <b>Auscultation</b><br/> <b>Characteristics of Breath Sounds.</b><br/> <b>Vesicular breath sounds</b><br/> <b>Bronchovesicular breath sounds.</b><br/> <b>Bronchial breath sounds.</b><br/> <b>Tracheal breath sounds.</b><br/> <b>E to A change.</b><br/> <b>Whispered pectoriloquy.</b><br/> <b>Adventitious sounds.</b><br/> <b>Assessing crackles, loudness, pitch, duration, amount, location, and timing in the respiratory cycle.</b></p> |  |
| 3. | <b>Respiratory Monitoring</b>                          | <p><b>Pulse Oximetry.</b><br/> <b>End-Tidal Carbon Dioxide. Monitoring.</b><br/> <b>Arterial Blood Gases.</b><br/> <b>Mixed Venous Oxygen Saturation.</b></p>                                                                                                                                                                                                                                                                                         |  |
| 4. | <b>Respiratory Diagnostic Studies</b>                  | <p><b>Chest Radiography.</b><br/> <b>Ventilation–Perfusion Scanning.</b><br/> <b>Pulmonary Angiography.</b><br/> <b>Bronchoscopy.</b><br/> <b>Thoracentesis.</b><br/> <b>Sputum Culture.</b><br/> <b>Pulmonary Function Tests.</b></p>                                                                                                                                                                                                                |  |
| 5. | <b>Respiratory Assessment of the Pediatric Patient</b> | <p><b>Intercostals musculature.</b><br/> <b>Respiratory rate.</b><br/> <b>Chest.</b><br/> <b>Harshness.</b><br/> <b>Hyperresonance.</b><br/> <b>Underlying consolidation.</b><br/> <b>Bronchovesicular breath sounds.</b><br/> <b>Vesicular breath sounds.</b></p>                                                                                                                                                                                    |  |
| 6. | <b>Respiratory Assessment of the Older Adult</b>       | <p><b>Ability to breath.</b><br/> <b>Hyperresonance.</b><br/> <b>Chest wall expansion.</b><br/> <b>Respiratory muscles.</b><br/> <b>Use of accessory muscles secondary to calcification of rib articulations.</b><br/> <b>Subcutaneous tissue.</b><br/> <b>Dorsal curvature.</b><br/> <b>Kyphosis .</b><br/> <b>Basilar rales in the absence of disease.</b></p>                                                                                      |  |

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Teaching Methodology:**

1. Data show.
2. Handouts.
3. Discussions and lecture Presentations.
4. Laboratory demonstration , Group work
5. Clinical training.

**Text Books & References:**

- Bickley LS: Bates' Guide to Physical Examination and History Taking (8th Ed). Philadelphia, Lippincott Williams & Wilkins, 2003.
- Dettenmeier PA: Radiographic Assessment for Nurses. St. Louis, Mosby, 1995
- Kelley WN: Textbook of Internal Medicine (3rd Ed). Philadelphia, Lippincott-Raven, 1997
- Fischbach FT: A Manual of Laboratory and Diagnostic Tests (7th Ed). Philadelphia, Lippincott Williams & Wilkins, 2004
- Related articles form Nursing and Respiratory therapy journals.

# Para-Medical Program

|                          |                            |
|--------------------------|----------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b> |
| <b>Course Number</b>     | <b>21102131</b>            |
| <b>Course Title</b>      | <b>Pharmacology</b>        |
| <b>Credit Hours</b>      | <b>(3)</b>                 |
| <b>Theoretical Hours</b> | <b>(3)</b>                 |
| <b>Practical Hours</b>   | <b>(0)</b>                 |

**Short description:**

This course is designed to provide nursing students with general information and description of important drugs which are related to a particular system of human body or to an aspect of medical care.

**Course objectives:**

1. To study the general principles of pharmacology that will enable the student to use drugs properly and safely in nursing practice.
2. To be familiar with the therapeutic indications, toxic reactions, and contraindications of drugs commonly used in clinical practice.
3. Drug classes will be discussed with some emphasis on important representative examples of the most widely used drugs from each class.



**Detailed Course Description:**

| Unit Number | Unit Name                                            | Unit content                                                                                                                                                                                                                                                                                                                                                                                                      | Time Needed |
|-------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Orientation and introduction.                        |                                                                                                                                                                                                                                                                                                                                                                                                                   |             |
| 2.          | General principles of pharmacology:                  | <ul style="list-style-type: none"> <li>• The role of the nurse in drug administration</li> <li>• Pharmacokinetics.</li> <li>• Drug formulations and doses</li> <li>• Routes of drug administration</li> <li>• Pharmacodynamics</li> </ul>                                                                                                                                                                         |             |
| 3.          | Pharmacology of the autonomic nervous system:        | <ul style="list-style-type: none"> <li>• Cholinergic and cholinomimetic agents</li> <li>• Antimuscurinic drugs.</li> <li>• Sympathomimetics</li> <li>• Adrenergic blockers.</li> <li>• Neuromuscular junction blockers</li> </ul>                                                                                                                                                                                 |             |
| 4.          | Pharmacology of the central nervous system:          | <ul style="list-style-type: none"> <li>• Sedative – hypnotics</li> <li>• Opioid agonists and antagonists</li> <li>• Anticonvulsants.</li> <li>• Drugs used in the management of parkinson's disease.</li> <li>• Antipsychiatric drugs (Antipsychotic and Antidepressants).</li> <li>• General anesthetics.</li> <li>• Local anesthetics.</li> <li>• CNS stimulants and drug abuse.</li> <li>• Alcohols</li> </ul> |             |
| 5.          | Pharmacology of the cardiovascular and renal systems | <ul style="list-style-type: none"> <li>• Cardiac glycosides.</li> <li>• Antiarrhythmic drugs.</li> <li>• Antihypertensive drugs.</li> <li>• Drug used in the management of angina pectoris.</li> <li>• Drug therapy of</li> </ul>                                                                                                                                                                                 |             |

|     |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|-----|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|     |                                      | <p>hyperlipoproteinemias.</p> <ul style="list-style-type: none"> <li>• Diuretics.</li> </ul>                                                                                                                                                                                                                                                                                                                      |  |
| 6.  | Pharmacology of the endocrine system | <ul style="list-style-type: none"> <li>• Pituitary hormones.</li> <li>• Drugs used in the management thyroid diseases.</li> <li>• Glucocorticoids.</li> <li>• Sex steroids and oral contraceptives.</li> <li>• Insulin and oral hypoglycemics.</li> </ul>                                                                                                                                                         |  |
| 7.  | Chemotherapy                         | <ul style="list-style-type: none"> <li>• Antibacterial agents</li> <li>• Antineoplastic agents</li> <li>• Antiviral &amp; antifungal agents.</li> <li>• Anthelmintics.</li> <li>• Non steroidal.</li> </ul>                                                                                                                                                                                                       |  |
| 8.  | Nonsteroidal antiinflammatory drugs  | <ul style="list-style-type: none"> <li>• Salicylic acid derivatives.</li> <li>• Acetaminophen and other agents.</li> <li>• Drug therapy of gout.</li> </ul>                                                                                                                                                                                                                                                       |  |
| 9.  | Respiratory Pharmacology             | <ul style="list-style-type: none"> <li>• cough remedies.</li> <li>• Drugs used in the treatment of bronchial asthma.</li> </ul>                                                                                                                                                                                                                                                                                   |  |
| 10. | Pharmacology of the gastric system   | <ul style="list-style-type: none"> <li>• Drug therapy of peptic ulcer.</li> <li>• Purgatives</li> <li>• Drugs used in the treatment of constipation</li> </ul>                                                                                                                                                                                                                                                    |  |
| 11. | Anticoagulants                       | <ul style="list-style-type: none"> <li>• Anticoagulants</li> <li>• Antianemic drugs.</li> <li>• Vitamins.</li> <li>• Histamine and antihistamines.</li> </ul>                                                                                                                                                                                                                                                     |  |
| 12. | Toxicology                           | <ol style="list-style-type: none"> <li>1. Concept of toxicology</li> <li>2. Types of toxins <ul style="list-style-type: none"> <li>○ According to the degree, of toxicity</li> </ul> </li> </ol> <p>Types:</p> <ul style="list-style-type: none"> <li>• Plant toxins (toxic plants ): highly toxic plant, bacterial, fungous</li> <li>• Animal toxins : toxins of snakes, spiders, scorpions, ... etc.</li> </ul> |  |

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | <ul style="list-style-type: none"> <li>• Mineral toxins : toxins of heavy minerals such as zinc, pb, mercur....etc.</li> <li>• Mediations</li> <li>• Particular solutions such as alcohols and chloroforms</li> <li>• Pesticides             <ol style="list-style-type: none"> <li>1. Insecticides</li> <li>2. Rodenticides</li> <li>3. Miticides</li> <li>4. Herbicides</li> <li>5. Fungicides.</li> </ol> </li> </ul> <p>3- Routes of toxins entrance to human body:</p> <ul style="list-style-type: none"> <li>• The skin : non- injured ( healthy) skin injured</li> <li>• The respiratory system : the nose and the lungs</li> <li>• The digestive tract</li> <li>• The eyes</li> </ul> <p>4- Toxin transformations inside the human body:</p> <ul style="list-style-type: none"> <li>• Absorption of toxins and the conditions that must be available in the toxin to be</li> <li>• absorbed through one of the following parts of the body ,The healthy skin , the injured skin, mucus membranes and the</li> <li>• respiratory system.</li> <li>• Distribution of toxins inside the body.</li> <li>• Storage of toxins in human body.</li> </ul> |  |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

### Evaluation Strategies:

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Method of teaching

Lectures , Discussion, Presentation.

### Text Books & References:

1. Clinical pharmacology for nurses, John Trounce, Fourteenth edition. 1993  
ELBS, Churchill Livingstone.
2. Nursing pharmacology: A comprehensive approach to drug therapy warded et al., wadsworth Health Sciences (1985).
3. Falconer's the drug, the nurse , and the patient, Sheridan at al. 7<sup>th</sup> edition  
1982, Philadelphia : Saunders.

# Para-Medical Program

|                          |                              |
|--------------------------|------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>   |
| <b>Course Number</b>     | <b>21124211</b>              |
| <b>Course Title</b>      | <b>Respiratory Disorders</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                   |
| <b>Theoretical Hours</b> | <b>(2)</b>                   |
| <b>Practical Hours</b>   | <b>(0)</b>                   |

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### **Course Description:**

The course is designed to provide Respiratory Therapy student with knowledge about the common Respiratory Disorders , path physiology, laboratory and diagnostic tests ,signs and symptoms, pharmacological, and management.

### **Objectives**

Based on the content in this chapter, the reader should be able to:

1. Discuss the path physiology of pneumonia.
2. Compare and contrast the signs and symptoms of selected pulmonary disorders.
3. Discuss the management of selected pulmonary disorders.
4. Describe the path physiology of chronic obstructive lung disease (COPD) and associated signs and symptoms found on physical examination.
5. Explain various laboratory and diagnostic tests performed in COPD.
6. Discuss the medical, pharmacological, and surgical management of COPD.

**Detailed Course Description:**

| Unit Number | Unit Name                             | Unit content                                                                                                                                              | Time Needed |
|-------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Pneumonia                             | <ul style="list-style-type: none"> <li>▪ Etiology</li> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> <li>▪ Prevention</li> </ul> |             |
| 2.          | Pleural Effusion                      | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul>                                           |             |
| 3.          | Pneumothorax                          | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul>                                           |             |
| 4.          | Pulmonary Embolism                    | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> <li>▪ Prevention</li> </ul>                     |             |
| 5.          | Chronic Obstructive Pulmonary Disease | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> <li>▪ Prevention</li> </ul>                     |             |
| 6.          | Chronic Bronchitis                    | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul>                                           |             |
| 7.          | Emphysema                             | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul>                                           |             |
| 8.          | Acute Asthma                          | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Assessment</li> <li>▪ Management</li> <li>▪ Status Asthmatics</li> </ul>              |             |
| 9.          | Acute Respiratory Failure             | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Classification</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul>                 |             |

|     |              |                                                                                                                                           |  |
|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------|--|
| 10. | Tuberculosis | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Classification</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul> |  |
| 11. | Influenza    | <ul style="list-style-type: none"> <li>▪ Path physiology</li> <li>▪ Classification</li> <li>▪ Assessment</li> <li>▪ Management</li> </ul> |  |

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Method of teaching**

Lectures , Discussion, Presentation.

**Text Books & References:**

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
5. Pierce LNB: Guide to Mechanical Ventilation and Intensive Respiratory Care. Philadelphia, WB Saunders, 1995
6. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002



- 
7. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
  8. West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000

# Para-Medical Program

|                          |                            |
|--------------------------|----------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b> |
| <b>Course Number</b>     | <b>21113101</b>            |
| <b>Course Title</b>      | <b>Infection Control</b>   |
| <b>Credit Hours</b>      | <b>(3)</b>                 |
| <b>Theoretical Hours</b> | <b>(2)</b>                 |
| <b>Practical Hours</b>   | <b>(3)</b>                 |

### **Brief Course Description:**

The course is designed to provide Respiratory Therapist with knowledge about reviews the microbiology of respiratory pathogens and apply the precautions to prevent the developmental of infections by using the physical and chemical means to sterilize, disinfect, and maintain respiratory equipment.

### **Course Objectives:**

Upon the completion of the course, the student will be able to:

1. Know the major microorganisms within the clinical setting causing ventilator infectious diseases
2. Discuss the developmental of widespread resistance of many bacteria to antibiotics
3. Understand the necessary a precaution for a caregiver to avoid transmitting resistant microorganisms within the hospital or clinical setting.
4. Describe respiratory care equipment and practices that are potential sources of Respiratory infection
5. Describe techniques used to minimize Nosocomial respiratory infection, related to respiratory care equipment.
6. Understand the common Diagnostic procedures that determined the source of respiratory infection

**Detailed Course Description:**

| Unit Number | Unit Name                                                   | Unit content                                                                                                                                                 | Time Needed |
|-------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Basic microbiology                                          | Bacteria<br>Chlamydiae<br>Rickettsiae<br>Mycoplasmas<br>Mycobacteria<br>Viruses<br>Fungi<br>Pneumocystic carinnii<br>Parasites                               |             |
| 2.          | Antibiotic resistance                                       | Common antibiotic Mechanisms<br>Spectrum of activity<br>Toxicities                                                                                           |             |
| 3.          | Infection control methods                                   | Cleaning<br>Disinfection<br>Sterilization<br>Equipment surveillance<br>Universal precautions<br>Isolation procedures<br>Care of the Environment              |             |
| 4.          | Respiratory infection                                       | Otitis and sinusitis<br>Pharyngitis<br>Parapharyngeal abscess<br>Epiglottitis<br>Tracheitis / tracheobronchitis<br>Bronchitis , bronchiolitis, and pneumonia |             |
| 5.          | Nosocomial infections related to respiratory care equipment | Equipment – related issues<br>Equipment – reducing techniques                                                                                                |             |
| 6.          | Diagnostic procedures                                       | Sputum induction<br>Bronchoscopy                                                                                                                             |             |

|  |  |                                                                                                                          |  |
|--|--|--------------------------------------------------------------------------------------------------------------------------|--|
|  |  | Transtracheal aspiration<br>Nonbronchochoscopic bronchoalveolar lavage<br>Pleural fluid analysis<br>Acceptable specimens |  |
|--|--|--------------------------------------------------------------------------------------------------------------------------|--|

### Evaluation Strategies:

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Teaching Methodology:

- ❖ Lecture. Discussion. Simulation. Assignments.

### References:

#### Text Books & References:

- Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
- Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
- McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
- Pierce LNB: Guide to Mechanical Ventilation and Intensive Respiratory Care. Philadelphia, WB Saunders, 1995
- West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000

# Para-Medical Program

|                          |                                   |
|--------------------------|-----------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>        |
| <b>Course Number</b>     | <b>21124231</b>                   |
| <b>Course Title</b>      | <b>Respiratory Management (1)</b> |
| <b>Credit Hours</b>      | <b>(3)</b>                        |
| <b>Theoretical Hours</b> | <b>(3)</b>                        |
| <b>Practical Hours</b>   | <b>(0)</b>                        |

### **Course Description:**

The purpose of this course is to provide the student with knowledge and of respiratory patients achieved during in assessing patient needs, providing quick and efficient care, evaluating results of intervention, and supporting, teaching, and preparing the patient and family.

Techniques, equipment, and procedures vary according to the patient's respiratory status. Bronchial hygiene, artificial airways, chest tubes, pharmacological agents, and various types of ventilator support are applied in this course

### **Objectives**

Based on the content course, the student should be able to:

1. Summarize the desired outcomes of the various bronchial hygiene techniques.
2. Compare and contrast situations in which chest physiotherapy (including postural drainage) is useful and those in which it is contraindicated.
3. Describe the nursing assessment of patients on oxygen therapy.
4. Compare and contrast indications for, and complications of, orotracheal intubation and nasotracheal intubation.
5. Summarize procedures commonly performed in the intensive care unit that can precipitate pneumothorax
6. Compare and contrast the principles governing chest tube drainage systems.
7. Analyze the process by which each of the following conditions can cause respiratory failure: benzodiazepine overdose, asthma, and pulmonary embolus.
8. Differentiate between the principles of negative pressure ventilation and positive-pressure ventilation. In positive-pressure ventilation, differentiate between pressure-cycled and volume-cycled ventilators.
9. Compare and contrast intermittent mandatory, assist-control, pressure-support, and pressurecontrolled ventilation.
10. Summarize strategies to maximize oxygen delivery with the goal of achieving a nontoxic FIO<sub>2</sub> setting.
11. Summarize adverse effects of positive endexpiratory pressure, how they are identified, and the appropriate treatment for each.
12. Compare and contrast the advantages and disadvantages of tracheostomy versus endotracheal intubation.
13. Access one Internet resource and identify two points applicable to ventilators or ventilated patient care.

**Detailed Course Description:**

| Unit Number | Unit Name                            | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Time Needed |
|-------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Anatomy of the Respiratory System    | The Thorax<br>The Conducting Airways<br>The Respiratory Airways<br>The Lung Circulation<br>The Pulmonary Lymphatics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |
| 2.          | Physiology of the Respiratory System | Ventilation<br>Diffusion<br>Perfusion<br>Relationship of Ventilation to Perfusion<br>Gas Transport<br>Regulation of Respiration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |
| 3.          | Air way management                   | Nasopharyngeal and Oropharyngeal Airways<br>Endotracheal Tubes<br>Tracheostomy care<br>Suctioning<br>Hyper oxygenation and Salination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |
| 4.          | Oxygen Therapy                       | <ul style="list-style-type: none"> <li>▪ Indications of Oxygen Therapy</li> <li>▪ Oxygen sources and delivery                             <ul style="list-style-type: none"> <li>○ Low-flow systems</li> <li>○ Reservoir systems</li> <li>○ High-flow systems</li> <li>○ Enclosure systems:</li> </ul> </li> <li>▪ Complications of Oxygen Delivery</li> <li>▪ Limitations of Oxygen Delivery</li> <li>▪ Assessment of Outcome</li> <li>▪ Monitoring:                             <ul style="list-style-type: none"> <li>○ Frequency</li> <li>○ Infection Control</li> <li>○ Related devices</li> <li>○ Negative effects</li> </ul> </li> <li>▪ Oxygen saturation</li> </ul> |             |



|    |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|----|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                  | <ul style="list-style-type: none"> <li>▪ Hypoxia</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| 5. | The Humidity and Aerosol Therapy | <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Humidity therapy</li> <li>• Aerosol therapy</li> <li>• Humidifiers                             <ul style="list-style-type: none"> <li>○ Active humidifiers</li> <li>○ Passive humidifiers</li> </ul> </li> <li>• Aerosol generators                             <ul style="list-style-type: none"> <li>○ Jet nebulizer</li> <li>○ Ultrasonic nebulizer</li> <li>○ Pressurized Metered Dose Inhalers</li> <li>○ Dry Powder Inhalers</li> <li>○ Spacers and Valved Holding chambers</li> </ul> </li> </ul> |  |
| 6. | Chest physical therapy           | <ul style="list-style-type: none"> <li>• Definition</li> <li>• Purpose</li> <li>• Precautions</li> <li>• Turning</li> <li>• Coughing</li> <li>• Deep breathing</li> <li>• Postural drainage</li> <li>• Percussion</li> <li>• Vibration</li> <li>• Preparation</li> <li>• Contraindications and Adaptations</li> </ul>                                                                                                                                                                                                                                                     |  |
| 7. | Chest Tubes                      | <ul style="list-style-type: none"> <li>• Physiological Principles</li> <li>• Drainage System</li> <li>• Suction</li> <li>• Equipment</li> <li>• Chest Tube Placement</li> <li>• Assessment and Management</li> </ul>                                                                                                                                                                                                                                                                                                                                                      |  |

|    |                        |                                                                                                                                                                                                                                                                                                                                                        |  |
|----|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                        | <ul style="list-style-type: none"> <li>• Drainage Monitoring</li> <li>• Water Seal Monitoring</li> <li>• Positioning</li> <li>• Complications</li> <li>• Transporting the Patient With Chest Tubes</li> </ul>                                                                                                                                          |  |
| 8. | Pharmacological Agents | <ul style="list-style-type: none"> <li>• Bronchodilator Therapy</li> <li>• Antibiotics</li> <li>• Sedative Agents</li> <li>• Cough Suppressants</li> <li>• Mucolytics</li> <li>• Neuromuscular Blocking Agents</li> <li>• Action, Dosage, and Side Effects of Pulmonary Drugs</li> <li>• Etiologies of Agitation in Critically Ill Patients</li> </ul> |  |

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Method of teaching**

Lectures , Discussion, Presentation.

**Text Books & References:**

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
5. Pierce LNB: Guide to Mechanical Ventilation and Intensive Respiratory Care. Philadelphia, WB Saunders, 1995
6. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
7. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
8. West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000
9. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
10. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001

# Para-Medical Program

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>                       |
| <b>Course Number</b>     | <b>21124232</b>                                  |
| <b>Course Title</b>      | <b>Respiratory Management (1)<br/>/ clinical</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                                       |
| <b>Theoretical Hours</b> | <b>(0)</b>                                       |
| <b>Practical Hours</b>   | <b>(6)</b>                                       |

## Course Description:

- The purpose of this course is to provide the student with opportunities to utilize clinical knowledge and skills to the actual treatment of respiratory patients achieved during in assessing patient needs, providing quick and efficient care, evaluating results of intervention, and supporting, teaching, and preparing the patient and family.  
Techniques, equipment, and procedures vary according to the patient's respiratory status. Bronchial hygiene, artificial airways, chest tubes, pharmacological agents, and various types of ventilatory support are applied in this course.

### **Objectives**

Based on the content course, the student should be able to:

1. Assess the patients needs, providing quick and efficient care, evaluating results of intervention, and supporting, teaching, and preparing the patient and family.
2. Compare and contrast situations in which chest physiotherapy (including postural drainage) is useful and those in which it is contraindicated.
3. Apply the nursing assessment of patients on oxygen therapy.
4. Apply procedures commonly performed in the intensive care unit that can precipitate pneumothorax
5. Compare and contrast the principles governing chest tube drainage systems.
6. Apply the interventions necessary to prevent complications in a patient with a chest tube drainage system.
7. Analyze the process by which each of the following conditions can cause respiratory failure: benzodiazepine overdose, asthma, and pulmonary embolus.
8. Differentiate between the principles of negative pressure ventilation and positive-pressure ventilation. In positive-pressure ventilation, differentiate between pressure-cycled and volume-cycled ventilators.
9. Apply strategies to maximize oxygen delivery with the goal of achieving a nontoxic FIO<sub>2</sub> setting.
10. Apply adverse effects of positive endexpiratory pressure, how they are identified, and the appropriate treatment for each.
11. Demonstrate the interventions for the ventilated patient, and explain the impact of each on decreasing the length of mechanical ventilation.

### **Detailed Course Description:**

| Unit Number | Unit Name                 | Unit content                                                                                                                                                                                                                                                                                                                                                                    | Time Needed |
|-------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 12.         | Bronchial Hygiene         | <ul style="list-style-type: none"> <li>• Coughing and deep breathing</li> <li>• Chest physiotherapy                             <ul style="list-style-type: none"> <li>▪ Postural Drainage</li> <li>▪ Chest Percussion and Vibration</li> <li>▪ Contraindications and Adaptations</li> </ul> </li> </ul>                                                                        |             |
| 13.         | Oxygen Therapy            | <ul style="list-style-type: none"> <li>• Patient Assessment</li> <li>• Oxygen Delivery Systems                             <ul style="list-style-type: none"> <li>▪ Nasal Cannula</li> <li>▪ Face Tent</li> <li>▪ Non-rebreather Mask</li> <li>▪ Tracheostomy Collar and T-piece</li> </ul> </li> </ul>                                                                         |             |
| 14.         | Artificial Airways        | Nasopharyngeal<br>Oropharyngeal Airways<br>Endotracheal Tubes<br>Suctioning                                                                                                                                                                                                                                                                                                     |             |
| 15.         | Chest Tubes               | <ul style="list-style-type: none"> <li>• Equipment</li> <li>• Chest Tube Placement</li> <li>• Drainage system</li> <li>• Assessment and Management                             <ul style="list-style-type: none"> <li>▪ Drainage monitoring</li> <li>▪ Water seal monitoring</li> <li>▪ positioning</li> </ul> </li> <li>• Transporting the Patient With Chest Tubes</li> </ul> |             |
| 16.         | Pharmacological Agents    | <ul style="list-style-type: none"> <li>▪ Bronchodilator Therapy</li> <li>▪ Antibiotics</li> <li>▪ Sedative Agents</li> <li>▪ Neuromuscular Blocking Agents</li> <li>▪ Action, Dosage, and Side Effects of Pulmonary Drugs</li> <li>▪ Assess the Etiologies of Agitation in Critically Ill Patients</li> </ul>                                                                   |             |
| 17.         | Assessment and Management | <ul style="list-style-type: none"> <li>▪ Tracheostomy care</li> <li>▪ Nutritional support</li> </ul>                                                                                                                                                                                                                                                                            |             |

|  |  |                                                                                                                                                                                                                  |  |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  |  | <ul style="list-style-type: none"> <li>▪ Eye care</li> <li>▪ Oral care</li> <li>▪ Psychological care</li> <li>▪ Comfort/Pain Control</li> <li>▪ Skin Integrity</li> <li>▪ Teaching/Discharge Planning</li> </ul> |  |
|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Method of teaching**

- Demonstrations in the clinical area of all skills required for Respiratory System Patient Management
- Bedside teaching
- Case study
- Clinical Tutorial

**Learning Resources:**

- Video films related to cases in hospitals
- Overhead projector, models.

**Text Books & References:**

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993

2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
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7. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
8. West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000
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10. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001



# Para-Medical Program

|                          |                                   |
|--------------------------|-----------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>        |
| <b>Course Number</b>     | <b>21124233</b>                   |
| <b>Course Title</b>      | <b>Respiratory Management (2)</b> |
| <b>Credit Hours</b>      | <b>(3)</b>                        |
| <b>Theoretical Hours</b> | <b>(3)</b>                        |
| <b>Practical Hours</b>   | <b>(0)</b>                        |

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### **Course Description:**

The course is designed to provide Respiratory Therapy student with knowledge about Acid Base Balance, Disorders of Hydrogen Ion Concentration, Arterial Blood Gases, Pulmonary function test, IPPB TREATMENT, and Sleep apnea syndrome.

### **Objectives**

Based on the content course, the student should be able to:

1. know the Acid Base Balance
2. Recognize the Disorders of Hydrogen Ion Homeostasis
3. Discuss the Arterial Blood Gases test and apply the knowledge in the interpretation of the results.
4. Know the diffraction between the normal and abnormal results for Arterial Blood Gases.
5. Discuss the pulmonary function test (PFT) and States the goal of the following specialized
6. Know the patients need assessment for IPPB TREATMENT
7. Evaluate the Sleep apnea syndrome

**Detailed Course Description:**

| Unit Number | Unit Name                               | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Time Needed |
|-------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Acid Base Balance                       | <ul style="list-style-type: none"> <li>• Introduction</li> <li>• The Hydrogen Ion and pH</li> <li>• Acids, Bases and Buffers</li> <li>• The Importance of Hydrogen Ion Concentration</li> <li>• Production of Hydrogen Ions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  |             |
| 2.          | Disorders of Hydrogen Ion Concentration | <ul style="list-style-type: none"> <li>• Respiratory Acidosis</li> <li>• Respiratory Alkalosis</li> <li>• Metabolic Acidosis</li> <li>• Metabolic Alkalosis</li> <li>• Compensation</li> <li>• Interpretation of Acid Base Disturbances in Blood Gas Results</li> </ul>                                                                                                                                                                                                                                                                                                                                                 |             |
| 3.          | Arterial Blood Gases                    | <ul style="list-style-type: none"> <li>• Arterial Blood Gases :                             <ul style="list-style-type: none"> <li>▪ introduction</li> <li>▪ Normal values of ABG</li> <li>▪ Abnormal values of ABG</li> </ul> </li> <li>• Sampling for Arterial Blood Gas Analysis                             <ul style="list-style-type: none"> <li>• Description</li> <li>• Setting</li> <li>• Indications</li> <li>• Contraindications</li> <li>• Complications</li> <li>• Limitations</li> <li>• Validation of results</li> <li>• Assessment of need</li> <li>• Assessment of test quality</li> </ul> </li> </ul> |             |

|    |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|----|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                         | <ul style="list-style-type: none"> <li>• Resources</li> <li>• Monitoring</li> <li>• Frequency</li> <li>• Infection control</li> <li>• What to think about</li> <li>• Cases studies</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| 4. | Pulmonary function test | <ul style="list-style-type: none"> <li>• ( PFT ) routinely evaluate lung size.</li> <li>• Lung volumes or flows.</li> <li>• Measurement of lung volumes.                             <ul style="list-style-type: none"> <li>▪ nitrogen wash out</li> <li>▪ inter gas dilution</li> <li>▪ body plethysmography</li> </ul> </li> <li>• spirometry.</li> <li>• Tracing quality.</li> <li>• Maximum voluntary ventilation (MVV)</li> <li>• Bronchodilator Response</li> <li>• Office spirometry</li> <li>• Diffusing capacity</li> <li>• specialized pulmonary function test are include</li> </ul> |  |
| 5. | IPPB Treatment          | <ul style="list-style-type: none"> <li>• Description/Definition</li> <li>• Indications</li> <li>• Limitations of Procedure or Device</li> <li>• Assessment of Need</li> <li>• Resources</li> <li>• Monitoring</li> <li>• Frequency</li> <li>• complications</li> <li>• Infection Control</li> </ul>                                                                                                                                                                                                                                                                                             |  |

|    |                      |                                                                                                                                                                              |  |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 6. | Sleep apnea syndrome | <ul style="list-style-type: none"> <li>• Weight loss</li> <li>• Pharmacotherapy</li> <li>• Nasal CPAP</li> <li>• Oral appliances</li> <li>• Oropharyngeal surgery</li> </ul> |  |
|----|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Method of teaching**

Lectures , Discussion, Presentation.

**Text Books & References:**

1. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
2. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
3. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
4. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
5. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
6. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
7. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001

# Para-Medical Program

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>                      |
| <b>Course Number</b>     | <b>21124234</b>                                 |
| <b>Course Title</b>      | <b>Respiratory Management (2)/<br/>clinical</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                                      |
| <b>Theoretical Hours</b> | <b>(0)</b>                                      |
| <b>Practical Hours</b>   | <b>(6)</b>                                      |

### **Course Description:**

- The purpose of this course is to provide the student with opportunities to utilize clinical knowledge and skills to the actual treatment of respiratory patients achieved about Acid Base Balance, Disorders of Hydrogen Ion Concentration, Arterial Blood Gases, Pulmonary function test, IPPB TREATMENT, and Sleep apnea syndrome

### **Objectives**

Based on the content course, the student should be able to:

1. Analysis the Acid Base Balance
2. Recognize the Disorders of Hydrogen Ion Homeostasis
3. Demonstrate the Arterial Blood Gases test and apply the knowledge in the interpretation of the results.
4. Different between the normal and abnormal results for Arterial Blood Gases.
5. Apply the pulmonary function test (PFT) and States the goal of the following specialized
6. Assess the patients need for IPPB TREATMENT
7. Evaluate the Sleep apnea syndrome

**Detailed Course Description:**

| Unit Number | Unit Name                               | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Time Needed |
|-------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Acid Base Balance                       | <ul style="list-style-type: none"> <li>• The Hydrogen Ion and pH</li> <li>• Acids, Bases and Buffers</li> <li>• The Importance of Hydrogen Ion Concentration</li> <li>• Production of Hydrogen Ions</li> </ul>                                                                                                                                                                                                                                                                                                                                                       |             |
| 2.          | Disorders of Hydrogen Ion Concentration | <ul style="list-style-type: none"> <li>• Respiratory Acidosis</li> <li>• Respiratory Alkalosis</li> <li>• Metabolic Acidosis</li> <li>• Metabolic Alkalosis</li> <li>• Compensation</li> <li>• Interpretation of Acid Base Disturbances in Blood Gas Results</li> </ul>                                                                                                                                                                                                                                                                                              |             |
| 3.          | Arterial Blood Gases                    | <ul style="list-style-type: none"> <li>• Arterial Blood Gases :                             <ul style="list-style-type: none"> <li>▪ Normal values of ABG</li> <li>▪ Abnormal values of ABG</li> </ul> </li> <li>• Sampling for Arterial Blood Gas Analysis</li> <li>• Description</li> <li>• Setting</li> <li>• Indications</li> <li>• Contraindications</li> <li>• Complications</li> <li>• Limitations</li> <li>• Validation of results</li> <li>• Assessment of need</li> <li>• Assessment of test quality</li> <li>• Resources</li> <li>• Monitoring</li> </ul> |             |



|    |                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|----|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                         | <ul style="list-style-type: none"> <li>• Frequency</li> <li>• Infection control</li> <li>• What to think about</li> <li>• Cases studies</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| 4. | Pulmonary function test | <ul style="list-style-type: none"> <li>• ( PFT ) routinely evaluate lung size.</li> <li>• Lung volumes or flows.</li> <li>• Measurement of lung volumes.                             <ul style="list-style-type: none"> <li>▪ nitrogen wash out</li> <li>▪ inter gas dilution</li> <li>▪ body plethysmography</li> </ul> </li> <li>• spirometry.</li> <li>• Tracing quality.</li> <li>• Maximum voluntary ventilation (MVV)</li> <li>• Bronchodilator Response</li> <li>• Office spirometry</li> <li>• Diffusing capacity</li> <li>• specialized pulmonary function test are include</li> </ul> |  |
| 5. | IPPB Treatment          | <ul style="list-style-type: none"> <li>• Procedure or Device</li> <li>• Assessment of Need</li> <li>• Resources</li> <li>• Monitoring</li> <li>• Frequency</li> <li>• complications</li> <li>• Infection Control</li> </ul>                                                                                                                                                                                                                                                                                                                                                                     |  |
| 6. | Sleep apnea syndrome    | <ul style="list-style-type: none"> <li>• Weight loss</li> <li>• Pharmacotherapy</li> <li>• Nasal CPAP</li> <li>• Oral appliances</li> <li>• Oropharyngeal surgery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

**Evaluation Strategies:**

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Method of teaching

- Demonstrations in the clinical area of all skills required for Respiratory System Patient Management
- Bedside teaching
- Case study
- Clinical Tutorial

### Learning Resources:

- Video films related to cases in hospitals
- Overhead projector, models.

### Text Books & References:

1. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
2. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
3. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
4. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
5. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
6. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
7. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001



# Para-Medical Program

|                          |                               |
|--------------------------|-------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>    |
| <b>Course Number</b>     | <b>21124241</b>               |
| <b>Course Title</b>      | <b>Mechanical Ventilators</b> |
| <b>Credit Hours</b>      | <b>(3)</b>                    |
| <b>Theoretical Hours</b> | <b>(1)</b>                    |
| <b>Practical Hours</b>   | <b>(6)</b>                    |

**Course Description:**

---

The course is designed to provide Respiratory Therapy student with knowledge about classification of positive- pressure ventilators, Common indications for mechanical ventilation, Ventilator Modes, Weaning From Mechanical Ventilation, Complications of Mechanical Ventilation, New Frontiers and Challenges, and alternative modes of mechanical Ventilation

### **Objectives**

- List the indication for and complications of mechanical ventilation.
- Discuss issues related to ventilator-associated lung injury.
- Discuss issues related to selection of the initial ventilator settings.
- List parameters that should be monitored during mechanical ventilation.
- Discuss issues related to weaning from mechanical ventilation.

### **Detailed Course Description:**

| Unit Number | Unit Name                                        | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Time Needed |
|-------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Introduction                                     | Background of Mechanical Ventilation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |
| 2.          | Classification of positive- pressure Ventilators | <ul style="list-style-type: none"> <li>▪ Mechanical Ventilators                             <ul style="list-style-type: none"> <li>– Negative-Pressure Ventilators</li> <li>– Positive-Pressure Ventilators</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |
| 3.          | Indications for Mechanical Ventilation           | <p>Common indications for mechanical ventilation</p> <ul style="list-style-type: none"> <li>• Apnea with respiratory arrest</li> <li>• Acute lung injury</li> <li>• Respiratory rate</li> <li>• Vital capacity</li> <li>• Minute ventilation</li> <li>• Arterial partial pressure of oxygen</li> <li>• Alveolar-arterial difference in oxygen tension</li> <li>• Chronic obstructive pulmonary disease (COPD)</li> <li>• Clinical deterioration</li> <li>• Respiratory muscle fatigue</li> <li>• Obtundation or coma</li> <li>• Hypotension</li> <li>• Tachypnea or bradypnea</li> <li>• Blood gases showing persistent hypoxemia</li> <li>• Acute partial pressure of carbon dioxide</li> <li>• Neuromuscular disease</li> <li>• Inspiratory pressure</li> <li>• Vital capacity</li> </ul> |             |
| 4.          | Initial Ventilator setting                       | <ul style="list-style-type: none"> <li>▪ Ventilator Modes</li> <li>▪ Volume Modes                             <ul style="list-style-type: none"> <li>– Assist-Control Mode</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |

|    |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
|----|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                         | <ul style="list-style-type: none"> <li>- Synchronized Intermittent</li> <li>- Mandatory Ventilation Mode</li> <li>▪ Pressure Modes                         <ul style="list-style-type: none"> <li>- Pressure-Support Ventilation Mode</li> <li>- Pressure-Controlled Ventilation Mode</li> <li>- Volume-Guaranteed Pressure</li> </ul> </li> <li>▪ Options Mode                         <ul style="list-style-type: none"> <li>- Continuous Positive Airway</li> <li>- Pressure/ Positive end-expiratory</li> <li>- Noninvasive Bilateral Positive Airway Pressure</li> <li>- Sighs</li> <li>- Initial FIO2</li> <li>- Positive end-expiratory pressure</li> <li>- Summary of initial ventilator setup</li> </ul> </li> <li>▪ Responding to alarms</li> <li>▪ Ensuring humidification and thermoregulation</li> </ul> |  |
| 5. | Weaning From Mechanical Ventilation     | <ul style="list-style-type: none"> <li>▪ Guidelines for Weaning From Short-Term Ventilation</li> <li>▪ Guidelines for Weaning From Long-Term Ventilation</li> <li>▪ Methods for Ventilation Weaning</li> <li>▪ Extubation criteria</li> <li>▪ Adjuncts to weaning</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| 6. | Complications of Mechanical Ventilation | <ul style="list-style-type: none"> <li>▪ Aspiration</li> <li>▪ Complications of intubation</li> <li>▪ Oxygen toxicity</li> <li>▪ Intrinsic PEEP, or auto-PEEP</li> <li>▪ Cardiovascular effects</li> <li>▪ Ventilator – associated pneumonia                         <ul style="list-style-type: none"> <li>▪ Ventilator-induced lung injury                                 <ul style="list-style-type: none"> <li>▪ barotrauma</li> <li>▪ Volutrauma</li> </ul> </li> </ul> </li> <li>▪ Water imbalance</li> </ul>                                                                                                                                                                                                                                                                                                  |  |

|    |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|----|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                             | <ul style="list-style-type: none"> <li>▪ Complications associated with immobility</li> <li>▪ Gastrointestinal problems</li> <li>▪ Muscle weakness</li> <li>▪ Decreased cardiac output</li> </ul>                                                                                                                                                                                                                                                                                                       |  |
| 7. | New Frontiers and Challenges                | <ul style="list-style-type: none"> <li>▪ AACN Procedure :Manual for Critical Care.</li> <li>▪ AACN Protocols for Practice: Care of the Mechanically Ventilated Patient,</li> <li>▪ AACN Clinical Issues</li> <li>▪ Egan’s Fundamentals of Respiratory Care</li> </ul>                                                                                                                                                                                                                                  |  |
| 8. | Alternative modes of Mechanical Ventilation | <ul style="list-style-type: none"> <li>▪ Dual-control, breath-to-breath, pressure-limited, time-cycled ventilation</li> <li>▪ Dual-control breath-to-breath, pressure-limited, flow-cycled ventilation</li> <li>▪ Automode and variable support or variable-pressure control</li> <li>▪ Dual control within a breath</li> <li>▪ Automatic tube compensation</li> <li>▪ Proportional assist ventilation</li> <li>▪ High-frequency ventilation</li> <li>▪ Airway pressure–release ventilation</li> </ul> |  |

**Evaluation Strategies:**

| Exams |            | Percentage | Date       |
|-------|------------|------------|------------|
| Exams | First Exam | 20%        | --/--/---- |



|                       |             |             |            |
|-----------------------|-------------|-------------|------------|
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Method of teaching

- Lectures , Discussion, Presentation.
- Clinical practice

### Text Books & References:

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
5. Pierce LNB: Guide to Mechanical Ventilation and Intensive Respiratory Care. Philadelphia, WB Saunders, 1995
6. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
7. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
8. West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000

# Para-Medical Program

|                          |                              |
|--------------------------|------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>   |
| <b>Course Number</b>     | <b>21102143</b>              |
| <b>Course Title</b>      | <b>Adult Health Nursing.</b> |
| <b>Credit Hours</b>      | <b>(3)</b>                   |
| <b>Theoretical Hours</b> | <b>(3)</b>                   |
| <b>Practical Hours</b>   | <b>(0)</b>                   |

## Course Description:

The course is designed to provide the nursing student with knowledge about disease prevention, maintenance and restoration in addition to nursing care of the adult and

the elderly suffering from common acute and chronic disorders prevalent in the region. The nursing process is used as a framework to enable the student to assess, plan, implement and evaluate the effectiveness of nursing care provided to clients and their families.

### **Course Objectives:**

Upon completion of this course, the student will be able to:

1. Understand healthy life-style, prevention, and health promotion of adults and elderly clients.
2. Recognize health alterations and principal manifestations of common health disorders in the adult and the elderly patient.
3. Utilize the nursing process in assessing, planning , implementing and follow up care of the patient with acute and chronic health disorders.
4. Learn the appropriate terminology related to disease processes and clinical manifestations.
5. Understand factors related to the disease processes, diagnostic evaluation, and medical management and nursing interventions of common health disorders.
6. Develop an individualized teaching plan to the patient and significant other based on the assessed learning needs.
7. Describe the nurses' role in communicating and interacting with others to solve problems to assist in achieving patient goals and outcomes.

### **Detailed Course Description:**

| Unit | Unit Name | Unit content | Time |
|------|-----------|--------------|------|
|------|-----------|--------------|------|

| Number |                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Needed |
|--------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1.     | <p><b>Management and Nursing care of client with alternations in oxygenation and breathing pattern.</b></p> | <ul style="list-style-type: none"> <li>▪ Assessment of respiratory system and diagnostic procedures needed</li> <li>▪ Nursing intervention of patient with upper respiratory tract infection. Include ENT (tonalities, otitis media etc)</li> <li>▪ Nursing intervention of patient with lower respiratory T. Infection. Bronchitis, Bronchiactasis, pneumonia ,</li> <li>▪ Atelectasis and T.B</li> <li>▪ Nursing intervention of patient with COPD chronic obstructive pulmonary disease.</li> <li>▪ Nursing care of patient with lung cancer.</li> <li>▪ Nursing care of patient with chest trauma.</li> </ul>            |        |
| 2.     | <p><b>Management and Nursing care of patient with circulatory and tissue perfusion alterations</b></p>      | <ul style="list-style-type: none"> <li>▪ Assessment of cardiac function and Diagnostic studies of cardio vascular system.</li> <li>▪ Nursing management of hypertension</li> <li>▪ Nursing management of coronary artery disease. (Angina pectoris, atherosclerosis Myocardial infarction.</li> <li>▪ Nursing management of C.H.F</li> <li>▪ Nursing management of Arrhythmia.</li> <li>▪ Nursing management of pulmonary edema.</li> <li>▪ Nursing management of inflammatory and valvular heart disease.</li> <li>▪ Nursing management of vascular disorders.</li> <li>▪ Pre and Post operative. care of client</li> </ul> |        |

|           |                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|-----------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|           |                                                                                           | <p>under going cardiovascular surgery.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <p>3.</p> | <p><b>Nursing care of patient with alteration in ingestion and fecal elimination:</b></p> | <ul style="list-style-type: none"> <li>• Assessment of digestion process, absorption of food, elimination of waste product. And diagnostic studies of GI system.</li> <li>• Nursing management of nutritional problems             <ul style="list-style-type: none"> <li>– Normal nutrition</li> <li>– Eating disorders.</li> </ul> </li> <li>• Types of supplemental nutrition and nursing management             <ul style="list-style-type: none"> <li>– Oral feeding</li> <li>– Enteral feeding (tube feeding).</li> <li>– Total parenteral nutrition.</li> </ul> </li> <li>• Nursing management of upper gastrointestinal problems:             <ul style="list-style-type: none"> <li>– Nursing management of nausea and vomiting</li> <li>– Nursing management of hiatus hernia.</li> <li>– Nursing management of hernia.</li> <li>– Nursing management of esophageal disorders (esophagitis)... etc</li> <li>– Nursing management of gastritis and peptic ulcers.</li> <li>– Nursing management of stomach cancer.</li> </ul> </li> <li>• Nursing management of lower gastro-intestinal problems :-             <ul style="list-style-type: none"> <li>– Nursing care of patient with appendicitis.</li> <li>– Nursing care of patient with</li> </ul> </li> </ul> |  |

|    |                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|----|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                                                                                      | <p>inflammatory bowel disease, diverticulitis, and mal</p> <ul style="list-style-type: none"> <li>● absorption syndrome.</li> <li>● Pre and post operative care of patient undergoing surgery of stomach and intestine.</li> <li>● Factors affecting fecal diversion and nursing care of patient with colostomy and ileostomy.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |  |
| 4. | <b>Nursing care and management of patient with alteration of renal and urinary elimination.</b>      | <ul style="list-style-type: none"> <li>▪ Assessment diagnostic studies used to determine kidney and urinary function.</li> <li>▪ Nursing management of renal and urologic problems.</li> <li>▪ Infections and inflammatory disorders of urinary system urinary tract infection. <ul style="list-style-type: none"> <li>– UTI and cystitis.</li> <li>– Pyelonephritis</li> <li>– Glomerulonephritis</li> <li>– Nephrotic syndrome.</li> <li>– Urinary tract calculi.</li> </ul> </li> <li>▪ Nursing management of urinary diversion.</li> <li>▪ Nursing care of acute and chronic renal failure</li> <li>▪ Pre and postoperative management of patient undergoing surgical interventions of kidney and urinary system.</li> </ul> |  |
| 5. | <b>Nursing care and management of patient with alteration in liver, biliary tract, and pancreas.</b> | <ul style="list-style-type: none"> <li>▪ Assessment of liver, gallbladder, and pancreas and diagnostic procedure.</li> <li>▪ Factors contributing to liver disease and pancreases and nursing management: <ul style="list-style-type: none"> <li>– Jaundice.</li> <li>– Viral hepatitis</li> <li>– Liver cirrhosis.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |  |

|    |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                                                                                        | <ul style="list-style-type: none"> <li>- Pancreatitis.</li> <li>▪ factors contributing to biliary tract and nursing care:             <ul style="list-style-type: none"> <li>- Cholecystitis.</li> <li>- Chollylithiasis.</li> </ul> </li> <li>▪ Nursing management of patient with D.M.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                |  |
| 6. | <b>Nursing management of patient with alteration endocrine functions.</b>                              | <ul style="list-style-type: none"> <li>▪ Diagnostic studies and assessment of endocrine system.</li> <li>▪ Nursing Care of patient with Disorders of anterior pituitary gland.</li> <li>▪ Disorder of posterior pituitary gland.</li> <li>▪ Disorders of thyroid gland.</li> <li>▪ Disorders of parathyroid gland.</li> <li>▪ Disorders of adrenal gland (Cushing's and Addison's syndrome).</li> <li>▪ Corticosteroid therapy.</li> </ul>                                                                                                                                                                                                                         |  |
| 7. | <b>Nursing management of patient with alterations related to central and peripheral nervous system</b> | <ul style="list-style-type: none"> <li>▪ Nursing assessment and diagnostic studies of nervous system</li> <li>▪ Nursing management of intracranial problems.</li> <li>▪ Unconsciousness care</li> <li>▪ Nursing management of patient with a stroke (cerebro vascular accident)</li> <li>▪ Nursing management of chronic neurological problems.</li> <li>▪ Headache</li> <li>▪ Seizures</li> <li>▪ Multiple sclerosis.</li> <li>▪ Parkinson's disease.</li> <li>▪ Myasthenia gravis.</li> <li>▪ Alzheimer's disease.</li> <li>▪ Diagnostic studies of peripheral and spinal Cord disorders.</li> <li>▪ Poly neuritis</li> <li>▪ Guillain-Barre syndrome</li> </ul> |  |

|    |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
|----|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    |                                                                                               | <ul style="list-style-type: none"> <li>▪ Tetanus</li> <li>▪ Spinal cord injuries.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| 8. | <b>Nursing management of patient with alterations in musculoskeletal system.</b>              | <ul style="list-style-type: none"> <li>▪ Assessment and diagnostic studies of musculoskeletal system.</li> <li>▪ Nursing management of sprain strain, and muscle spasm.                             <ul style="list-style-type: none"> <li>– Nursing management of fractures.</li> <li>– Nursing management of osteomyelitis.</li> <li>– Nursing management of metabolic bone disorders (osteoporosis, paget's disease).</li> </ul> </li> <li>▪ Nursing management of arthritis and a connective tissue disease: –                             <ul style="list-style-type: none"> <li>– Osteoarthritis.</li> <li>– Rheumatoid arthritis</li> <li>– Gout</li> <li>– S.L.E Systemic lupus erythromatosis.</li> </ul> </li> <li>▪ Nursing care of common joint surgical procedures:                             <ul style="list-style-type: none"> <li>– Joint replacement surgery (Hip and knee replacement).</li> </ul> </li> </ul> |  |
| 9. | <b>Nursing management of patient with alterations in integumentary system. (Dermatology).</b> | <ul style="list-style-type: none"> <li>▪ Assessment and diagnostic procedures of integumentary system (skin).</li> <li>▪ Nursing management of patient with burns.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |

| Exams | Percentage | Date |
|-------|------------|------|
|-------|------------|------|



|                       |             |             |            |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

**Teaching Methodology:.**

Discussions and lecture Presentations

**Text Books & References:**

1. Medical Surgical Nursing Care Critical Thinking In Client Care 2nd edition. Karen Burke, Priscilla LeMone, Mohn Brown, 2006.
2. Medical Surgical Nursing: An Integrated Approach and Gena Duncan, 2001.
3. Fundamentals of nursing: Human health and function (3rd ed.). Craven, R.F. & Hirnle, C .J. (2000). New York: J.B. Lippicott Co.
4. Fundamentals of Nursing. Concepts, Process, and Practice. Kozier, B. Erb. G., & Berman, A. (2000) (6th ed.) Redwood City. CA. Addison Wesley.
5. Clinical Examination Epstein, O., Perkins, G., Bono, D. & Cookson, J. (2nd ed.). (1997) London: Mosby.

- Selected articles form nursing journals.

# Para-Medical Program

|                          |                                        |
|--------------------------|----------------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>             |
| <b>Course Number</b>     | <b>21102144</b>                        |
| <b>Course Title</b>      | <b>Adult Health Nursing (Clinical)</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                             |
| <b>Theoretical Hours</b> | <b>(0)</b>                             |
| <b>Practical Hours</b>   | <b>(6)</b>                             |

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### **Brief Course Description:**

❖ The purpose of this course is to provide the student with opportunities to utilize the knowledge, skills and attitudes achieved during the Adult Health Nursing course to provide nursing care to adults and the elderly. Practicum experiences will be arranged at various health care settings.

### **Course Objectives:**

Upon the completion of the course, the student will be able to:

1. Utilize the nursing process to assess a various health problems:-
2. Participate in dose calculation and administration of medication
3. Participate in implementing a nursing care plan of the patient with alterations of ventilation and gas exchange.
4. Participate in caring for the patient with circulatory and tissue perfusion alterations.
5. Participate in providing nursing care to a patient with alterations in endocrine and Metabolic functions.
6. Participate in the care of a patient with alterations of the blood cells and bleeding tendencies..
7. Participate in caring for a patient with alteration in motor and sensory functions.
8. Assist in the implementation of a nursing care plan for a patient with burns.
9. Participate in managing and caring of a patient with infectious disease.

**Detailed Course Description:**

| Unit Number | Unit Name                                                                                                               | Unit content                                                                                                                                                                                                                                                                                                                                                                                             | Time Needed |
|-------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | <b>Utilize the nursing process</b>                                                                                      | <ul style="list-style-type: none"> <li>▪ Assess the current health status of the individual.</li> <li>▪ Collect basic data related to the individual health problem.</li> <li>▪ Use established nursing diagnosis to assist in implementing an individual plan of care.</li> </ul>                                                                                                                       |             |
| 2.          | <b>Participate in dose calculation and administration of medication</b>                                                 | <ul style="list-style-type: none"> <li>▪ Oral, Intravenous, Intradermal, subcutaneous ,rectal drugs... etc.</li> </ul>                                                                                                                                                                                                                                                                                   |             |
| 3.          | <b>Participate in implementing a nursing care plan of the patient with alterations of ventilation and gas exchange.</b> | <ul style="list-style-type: none"> <li>▪ Oxygen therapy administration.</li> <li>▪ Airway clearance.</li> <li>▪ Care of a patient with underwater seal drainage.</li> <li>▪ Preparation of a patient for diagnostic procedure.</li> <li>▪ Pre – post operative care of a patient undergoing thoracic surgical interventions.</li> <li>▪ Care of a patient with a tracheotomy , tonsillectomy.</li> </ul> |             |
| 4.          | <b>Participate in caring for the patient with circulatory and tissue perfusion alterations.</b>                         | <ul style="list-style-type: none"> <li>▪ Peripheral vascular assessment.</li> <li>▪ Hemodynamic monitoring.</li> <li>▪ Pre – post operative care of a patient undergoing peripheral vascular surgery.</li> <li>▪ Preparation and care of a patient undergoing invasive diagnostic procedure.</li> <li>▪ Cardio-pulmonary resuscitation.</li> </ul>                                                       |             |
| 5.          | <b>Participate in providing nursing care</b>                                                                            | <ul style="list-style-type: none"> <li>▪ Assist in providing oral feeding.</li> <li>▪ Provide care for patient with</li> </ul>                                                                                                                                                                                                                                                                           |             |

|    |                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|----|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|    | <b>of patient with alteration in ingestion and Fecal elimination</b>                                             | <p>nasogastric tube feeding.</p> <ul style="list-style-type: none"> <li>▪ Care of patient with :                             <ul style="list-style-type: none"> <li>– Nausea and vomiting.</li> <li>– Hernias.</li> <li>– Peptic ulcer.</li> <li>– Stomach cancer.</li> <li>– Appendicitis.</li> <li>– Inflammatory bowel syndrome.</li> <li>– Mal absorption syndrome.</li> <li>– Fecal diversion.</li> </ul> </li> </ul>                                        |  |
| 6. | <b>Participation in the care of patient with alteration of renal and urinary elimination.</b>                    | <ul style="list-style-type: none"> <li>▪ Preparation of patient undergoing surgical intervention of kidney and urinary system.</li> <li>▪ Preparation for urinary catheterization.</li> <li>▪ Daily Care of urinary Catheterization.</li> </ul>                                                                                                                                                                                                                   |  |
| 7. | <b>Participate in providing nursing care to a patient with alterations in endocrine and metabolic functions.</b> | <ul style="list-style-type: none"> <li>▪ Assist in the therapeutic regimen of a diabetic patient.</li> <li>▪ Assist in the implementation of educational program to prevent complication of diabetes mellitus.</li> <li>▪ Care of a patient with a diabetic foot.</li> <li>▪ Assist in caring for a patient with thyroid gland disorders.</li> <li>▪ Pre-post operative care of a patient undergoing thyroidectomy.</li> </ul>                                    |  |
| 8. | <b>Participate in caring for a patient with alterations in central and peripheral Nervous system.</b>            | <ul style="list-style-type: none"> <li>▪ Assist in the assessment of the neurological function.</li> <li>▪ Assist in the care provision for the unconscious patient.</li> <li>▪ Assist in caring for a patient with spinal injury.</li> <li>▪ Pre-post operative care of the patient undergoing surgical intervention of the neurological system.</li> <li>▪ Care of a patient with vision disorders.</li> <li>▪ Care of a patient with ENT disorders.</li> </ul> |  |

|            |                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                            |  |
|------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>9.</p>  | <p><b>Assist in nursing care provided for patient with musculoskeletal disorder.</b></p>                             | <ul style="list-style-type: none"> <li>▪ Assist in assessment o fractured bones.</li> <li>▪ Implement nursing care needed for a patient with bone fracture</li> <li>▪ Pre post operative management for different bone surgeries.</li> <li>▪ Fracture fixation.</li> <li>▪ Joints replacement.</li> </ul>                                                                                  |  |
| <p>10.</p> | <p><b>Participate in the care of a patient with alterations of the blood components and bleeding tendencies.</b></p> | <ul style="list-style-type: none"> <li>▪ Preparation of a patient undergoing assessment of the blood function.</li> <li>▪ Assist in managing and using measures to prevent bleeding.</li> <li>▪ Care of a patient receiving blood and blood components transfusion.</li> <li>▪ Uses reversed isolation techniques to prevent cross infection to the immune compromised patient.</li> </ul> |  |
| <p>11.</p> | <p><b>Assist in the implementation of a nursing care plan for a patient with burns.</b></p>                          | <ul style="list-style-type: none"> <li>▪ Wound cleansing and dressing change</li> <li>▪ Care of a burn graft.</li> <li>▪ Wound debridement.</li> <li>▪ Topical antibacterial application</li> </ul>                                                                                                                                                                                        |  |
| <p>12.</p> | <p><b>Participate in managing and caring of a patient with an infectious disease.</b></p>                            | <ul style="list-style-type: none"> <li>▪ Implement the universal precautions and infection contro measures.</li> <li>▪ Implement behaviors that prevent and control nosocomial infections.</li> </ul>                                                                                                                                                                                      |  |

| Exams                 |             | Percentage  | Date       |
|-----------------------|-------------|-------------|------------|
| Exams                 | First Exam  | 20%         | --/--/---- |
|                       | Second Exam | 20%         | --/--/---- |
|                       | Final Exam  | 50%         | --/--/---- |
| Homework and Projects |             | 10%         |            |
| <b>Total</b>          |             | <b>100%</b> |            |

### Teaching Methodology:

- Demonstrations in the clinical area of all skills required fro caring for adults and elderly patients.
- Bedside teaching
- Case study
- Clinical Tutorial

### Learning Resources:

- Video films related to cases in hospitals
- Overhead projector, models.

### References:

1. Medical Surgical Nursing Care Critical Thinking in Client Care 2nd edition. Karen Burke, Priscilla LeMone, Mohn Brown, 2006.
2. Medical Surgical Nursing: An Integrated Approach and Gena Duncan, 2001.
3. Fundamentals of nursing: Human health and function (3rd ed.). Craven, R.F. & Hirnle, C .J. (2000). New York: J.B. Lippicott Co.
4. Fundamentals of Nursing. Concepts, Process, and Practice. Kozier, B. Erb. G., & Berman, A. (2000) (6th ed.) Redwood City. CA. Addison Wesley.
5. Clinical Examination Epstein, O., Perkins, G., Bono, D. & Cookson, J. (2nd ed.). (1997) London: Mosby.

# Para-Medical Program

|                          |                            |
|--------------------------|----------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b> |
| <b>Course Number</b>     | <b>21124251</b>            |
| <b>Course Title</b>      | <b>CBR</b>                 |
| <b>Credit Hours</b>      | <b>(2)</b>                 |
| <b>Theoretical Hours</b> | <b>(1)</b>                 |
| <b>Practical Hours</b>   | <b>(3)</b>                 |



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### **Brief Course Description:**

- ❖ This course is designed to introduce the student into emergency medical care providing him with the knowledge and skills that make him able to do patient assessment and apply the safe Cardio Pulmonary Resuscitation and the more suitable instruments which allow him to manage airway obstruction, medical emergency care for Suffocation, Respiratory arrest, cardiac arrest and Stroke. It also introduces him to the skills needed for doing Cardio Pulmonary Resuscitation.

### **Course Objectives:**

Upon the completion of the course, the student will be able to:

1. The general rules, ethics and basis of Cardio Pulmonary Resuscitation.
2. Examine and assess the causality safely and effectively.
3. Deal with common airway obstruction.
4. Deal with medical emergency care for Suffocation, Respiratory arrest, cardiac arrest and Stroke.
5. Assess many varying emergency situations to determine what kind of patient care is needed and to provide the necessary care.
6. Know the principles of Basic Life Support
7. Apply Cardio Pulmonary Resuscitation for adult
8. Apply Cardio Pulmonary Resuscitation for child
9. Apply Cardio Pulmonary Resuscitation for infant
10. Safely apply CPR.

### **Detailed Course Description:**

| Unit Number | Unit Name                 | Unit Content                                                                                                                                                                                                                                                                                 | Time Needed |
|-------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | <b>Introduction</b>       | <ul style="list-style-type: none"> <li>▪ Introduction to CBR</li> <li>▪ Anatomy of respiratory system</li> <li>▪ Physiology of respiratory system</li> <li>▪ Function of respiratory system</li> <li>▪ Causes of sudden death</li> <li>▪ Medical, legal and ethical issues</li> </ul>        |             |
| 2.          | <b>Suffocation</b>        | <ul style="list-style-type: none"> <li>▪ Definition of Suffocation</li> <li>▪ Causes of Suffocation</li> <li>▪ Risk factors of common airway obstruction</li> <li>▪ Signs and symptoms of Suffocation</li> <li>▪ Emergency care of patients with airway obstruction</li> </ul>               |             |
| 3.          | <b>Respiratory arrest</b> | <ul style="list-style-type: none"> <li>▪ Definition of Respiratory arrest</li> <li>▪ Causes of Respiratory arrest</li> <li>▪ Risk factors of Respiratory arrest</li> <li>▪ Signs and symptoms of Respiratory arrest</li> <li>▪ Emergency care of patients with Respiratory arrest</li> </ul> |             |
| 4.          | <b>cardiac arrest</b>     | <ul style="list-style-type: none"> <li>▪ Definition of Cardiac arrest</li> <li>▪ Causes of sudden Cardiac arrest</li> <li>▪ Risk factors of heart attack</li> <li>▪ Signs and symptoms of Cardiac arrest</li> <li>▪ Emergency care of patients with Cardiac arrest</li> </ul>                |             |
| 5.          | <b>Stroke</b>             | <ul style="list-style-type: none"> <li>▪ Definition of brain stroke</li> <li>▪ Causes of brain stroke</li> <li>▪ Risk factors of brain stroke</li> <li>▪ Signs and symptoms of brain stroke</li> <li>▪ Emergency care of patients with brain stroke</li> </ul>                               |             |

|    |                           |                                                                                                                                                                                                                     |  |
|----|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 6. | <b>Basic Life Support</b> | <ul style="list-style-type: none"> <li>▪ Objectives of CBR</li> <li>▪ Conditions to successful of CBR</li> <li>▪ Types of death</li> <li>▪ Airway</li> <li>▪ Breathing</li> <li>▪ Circulation</li> </ul>            |  |
| 7. | <b>Adult CPR</b>          | <ul style="list-style-type: none"> <li>▪ Definitions</li> <li>▪ Scene assessment and appropriate response</li> <li>▪ A-B-C's of Adult CPR for 1 rescuer</li> <li>▪ A-B-C's of Adult CPR for 2 rescuers</li> </ul>   |  |
| 8. | <b>Child CPR</b>          | <ul style="list-style-type: none"> <li>▪ Definitions</li> <li>▪ Scene assessment and appropriate response</li> <li>▪ A-B-C's of Child CPR for 1 rescuer</li> <li>▪ A-B-C's of Child CPR for 2 rescuers</li> </ul>   |  |
| 9. | <b>Infant CPR</b>         | <ul style="list-style-type: none"> <li>▪ Definitions</li> <li>▪ Scene assessment and appropriate response</li> <li>▪ A-B-C's of Infant CPR for 1 rescuer</li> <li>▪ A-B-C's of Infant CPR for 2 rescuers</li> </ul> |  |

### Evaluation Strategies:

| Exams                                 |             | Percentage | Date       |
|---------------------------------------|-------------|------------|------------|
| Exams                                 | First Exam  | 20%        | --/--/---- |
|                                       | Second Exam | 20%        | --/--/---- |
|                                       | Final Exam  | 50%        | --/--/---- |
| Homework and Projects                 |             | 10%        |            |
| Discussions and lecture Presentations |             |            |            |

### Teaching Methodology:

1. Lectures.
2. Slides and posters.
3. Dolls Models.
4. Practice inside labs.
5. Training visits

### Text Books & References:

1. First Aid. Taking Action MCGRAWII, NSC, 2007.
2. First Aid. CPR And AED, JONES AND BARTLETT, Thygerson, 2005.
3. First Aid. CPR, And AED Essentials. 41, AMERICAN COLLEGE OF. EMERG. Phy, 2005.
4. Airway Management Paramedic, Jones And Bartlett, Margolis, 2004
5. First Aid Manual, DK PUB, 2002
6. American Medical Association, Hand Book Of First Aid & Emergency Care, 2000

# Para-Medical Program

|                          |                              |
|--------------------------|------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>   |
| <b>Course Number</b>     | <b>21124261</b>              |
| <b>Course Title</b>      | <b>Critical care nursing</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                   |
| <b>Theoretical Hours</b> | <b>(1)</b>                   |
| <b>Practical Hours</b>   | <b>(3)</b>                   |

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### **Course description:**

The critical care nursing course is designed to enhance the competence of the nurse working in a critical care unit, by obtaining the theoretical and practical knowledge for health and disease management of the critically ill patient with life threatening critical illness or injury, that require advanced technology and monitoring, and their families.

The course content is designed to build the nurses knowledge of new and current technology for optimal patient care.

### **Course objectives:**

1. Apply knowledge from adult and pediatric critical care trauma courses to understand the patients health and intervention that will enhance treatment outcomes.
2. Show evidence of critical thinking, problem solving, and priority setting to intervene in clinical situation with critically ill patient.
3. Utilize advanced communication and team skills to interact with the patient, family and other health care provider.
4. Demonstrate practice in diverse setting.

| Unit Number | Unit Name           | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Time Needed |
|-------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Introduction.       | <ul style="list-style-type: none"> <li>• Description of the critical care unit.</li> <li>• Critical care environment.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
| 2.          | Patient assessment. | <ul style="list-style-type: none"> <li>• Respiratory system assessment.</li> <li>• Common respiratory disorders:                             <ul style="list-style-type: none"> <li>▪ Pneumonia</li> <li>▪ Pneumothorax</li> <li>▪ Pleural effusion</li> <li>▪ Pulmonary embolism</li> <li>▪ COPD</li> <li>▪ Acute asthma</li> <li>▪ Acute respiratory failure</li> <li>▪ ARDS</li> </ul> </li> <li>• Cardiovascular system assessment</li> <li>• Common cardiac disorders:                             <ul style="list-style-type: none"> <li>▪ Heart failure</li> <li>▪ Hypertension</li> <li>▪ MI</li> </ul> </li> <li>• Nervous system assessment</li> <li>• Common nervous disorders:                             <ul style="list-style-type: none"> <li>▪ Guillian berre syndrome</li> <li>▪ Myasthenia graves</li> <li>▪ Seizures</li> </ul> </li> <li>• Renal system assessment</li> <li>• Common renal disorders:                             <ul style="list-style-type: none"> <li>▪ Renal failure</li> </ul> </li> <li>• Gastro intestinal system assessment</li> <li>• Common GI disorders:                             <ul style="list-style-type: none"> <li>▪ GI bleeding</li> <li>▪ Intestinal obstruction</li> <li>▪ Pancreatitis</li> <li>▪ Hepatitis</li> </ul> </li> </ul> |             |

|    |                                                      |                                                                                                                                                                                                                                                                       |  |
|----|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 3. | Head injury                                          | <ul style="list-style-type: none"> <li>• Assessment</li> <li>• Types of head injury</li> <li>• Brain death</li> </ul>                                                                                                                                                 |  |
| 4. | Hematological system                                 | <ul style="list-style-type: none"> <li>• Assessment</li> <li>• Common disorders:                             <ul style="list-style-type: none"> <li>▪ anemia's</li> <li>▪ bleeding disorder</li> <li>▪ disseminating intravascular coagulation</li> </ul> </li> </ul> |  |
| 5. | The critical ill older patient                       | <ul style="list-style-type: none"> <li>• Normal characteristic of aging</li> <li>• Physical challenges</li> <li>• Psychological challenges</li> </ul>                                                                                                                 |  |
| 6. | The critical ill pediatric patient                   | <ul style="list-style-type: none"> <li>• Anatomical and physical differences</li> <li>• Physical challenges</li> </ul>                                                                                                                                                |  |
| 7. | The post anesthesia patient                          | <ul style="list-style-type: none"> <li>• Moderate sedation</li> <li>• Potential problems in the post anesthesia patient</li> </ul>                                                                                                                                    |  |
| 8. | Interfacility transfer of the critically ill patient | <ul style="list-style-type: none"> <li>• Modes of transport</li> <li>• Transfer guidelines</li> <li>• Phases of transport</li> </ul>                                                                                                                                  |  |
| 9. | Legal issues                                         | <ul style="list-style-type: none"> <li>• Overview of legal areas of law</li> <li>• Nursing negligence in critical care unit</li> <li>• Issues that involve life support measures</li> </ul>                                                                           |  |



**Evaluation Strategies:**

| Exams                                 |             | Percentage | Date       |
|---------------------------------------|-------------|------------|------------|
| Exams                                 | First Exam  | 20%        | --/--/---- |
|                                       | Second Exam | 20%        | --/--/---- |
|                                       | Final Exam  | 50%        | --/--/---- |
| Homework and Projects                 |             | 10%        |            |
| Discussions and lecture Presentations |             |            |            |

**Method of teaching**

- Lectures , Discussion, Presentation.
- Clinical practice

**Text Books & References:**

1. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
2. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
3. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
4. Pierce LNB: Guide to Mechanical Ventilation and Intensive Respiratory Care. Philadelphia, WB Saunders, 1995
5. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
6. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
7. West JB: Respiratory Physiology: The Essentials (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2000
8. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
9. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001

# Para-Medical Program

|                          |                                  |
|--------------------------|----------------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b>       |
| <b>Course Number</b>     | <b>21124262</b>                  |
| <b>Course Title</b>      | <b>Neonatal respiratory care</b> |
| <b>Credit Hours</b>      | <b>(2)</b>                       |
| <b>Theoretical Hours</b> | <b>(1)</b>                       |
| <b>Practical Hours</b>   | <b>(3)</b>                       |

**Course description:**

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This course is designed to provide an overview of the various facts of respiratory care, including lung development, pulmonary function and pathophysiology, diagnosis, and management of neonatal disorders.

### **Objectives:**

based on the content of this course the student will be able to:

- Describe the normal lung development in neonates and maldevelopment
- Practice procedures and techniques associated with neonatal transfer, scoring system, and resuscitation
- Discuss the pathophysiology, etiology, and clinical management of selected respiratory disorders
- Understand and list the complications associated with mechanical ventilation

| Unit Number | Unit Name                                            | Unit content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Time Needed |
|-------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1.          | Neonatal development and maldevelopment              | <ul style="list-style-type: none"> <li>• Development of respiratory system</li> <li>• Developmental lung anomalies</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |
| 2.          | Procedures and techniques                            | <ul style="list-style-type: none"> <li>• Clinical examination</li> <li>• Infant scoring system</li> <li>• Neonatal resuscitation</li> <li>• Surfactant replacement therapy</li> <li>• Transport of ventilated babies</li> </ul>                                                                                                                                                                                                                                                                                                                                   |             |
| 3.          | Neonatal respiratory disorders                       | <ul style="list-style-type: none"> <li>• Respiratory failure</li> <li>• RDS</li> <li>• Pneumonia</li> <li>• Pneumothorax</li> <li>• Meconium aspiration</li> <li>• Aspiration syndrome</li> <li>• Pulmonary hypertension</li> <li>• Tissue hypoxia</li> <li>• Apnea</li> <li>• Diaphragmatic hernia</li> <li>• Tracheo-esophageal fistula</li> <li>• Pulmonary hyperplasia</li> <li>• Cardiac anomalies                             <ul style="list-style-type: none"> <li>▪ ASD</li> <li>▪ VSD</li> <li>▪ PDA</li> <li>▪ Overriding aorta</li> </ul> </li> </ul> |             |
| 4.          | Chronic lung disease                                 | <ul style="list-style-type: none"> <li>• Etiology and pathophysiology</li> <li>• Clinical management</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |
| 5.          | Complications associated with mechanical ventilation | <ul style="list-style-type: none"> <li>• Thoracic air leak</li> <li>• Neonatal ductus arteriosus</li> <li>• Neonatal pulmonary hemorrhage</li> <li>• Retinopathy of prematurity</li> </ul>                                                                                                                                                                                                                                                                                                                                                                        |             |

- Neuralgic complication

**Evaluation Strategies:**

| Exams                                 |             | Percentage | Date       |
|---------------------------------------|-------------|------------|------------|
| Exams                                 | First Exam  | 20%        | --/--/---- |
|                                       | Second Exam | 20%        | --/--/---- |
|                                       | Final Exam  | 50%        | --/--/---- |
| Homework and Projects                 |             | 10%        |            |
| Discussions and lecture Presentations |             |            |            |

**Method of teaching**

- Lectures , Discussion, Presentation.
- Clinical practice

**Text Books & References:**

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
5. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
6. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
7. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
8. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001

# Para-Medical Program

|                          |                            |
|--------------------------|----------------------------|
| <b>Specialization</b>    | <b>Respiratory Therapy</b> |
| <b>Course Number</b>     | <b>21124200</b>            |
| <b>Course Title</b>      | <b>Training</b>            |
| <b>Credit Hours</b>      | <b>(3)</b>                 |
| <b>Theoretical Hours</b> | <b>(0)</b>                 |
| <b>Practical Hours</b>   | <b>280</b>                 |

## **Brief Course Description:**

In this course the student will apply theoretical knowledge to clinical settings with emphasis on daily management and changing agent role. The student will take full responsibility under the supervision of clinical instructors and staff in charge of clinical settings who act as preceptors.

The course provides practice essential to the assessment, planning, Implementation and evaluation of clients in different clinical settings, as well as application of the respiratory skills related to the patients situations and treatment among the target aggregates.

This training will offer students the opportunity to take full responsibility as associate respiratory therapy before graduation.

## **Objectives**

At the end of the training, the student will have achieved the following:

- ❖ Knowledge - to have acquired the knowledge necessary for the safe practice of respiratory medicine. The trainee will obtain this knowledge during clinical placements, structured educational activities and independent learning.
- ❖ Skills - demonstrate ability and training in the following areas:
  - a) Advanced life support.
  - b) Respiratory function testing. Trainees should know how to perform routine lungfunction tests, plethysmography, assessment of airways hyper-responsiveness, hypoxic challenge and exercise testing. The trainee should also be competent in reporting the results.
  - c) Sleep studies. Trainees should have experience in screening studies, polysomnography and initiation of CPAP.
  - d) Non-invasive ventilation. Trainees should have experience in selecting patients who will benefit from this treatment in the acute and chronic situation and have experience of setting up the machinery.
  - e) Skin tests – tuberculin testing and allergy skin tests

The trainee will obtain these skills during clinical placements, structured educational activities and practice under supervision.

- ❖ Attitude - the trainee will demonstrate a high standard of ethical and professional behaviour in his/her work. S/he will have the ability to work as

part of a multidisciplinary team and to show the appropriate tact, empathy and communication skills in dealing with patients and colleagues. The following behaviour characteristics will be demonstrated:

- Interpersonal skills
- Self confidence together with recognition of own limitations
- Flexibility
- Resilience
- Decisiveness
- Accountability
- Non-judgemental approach
- Thoroughness
- Enthusiasm and drive
- Probity

These attitudes will be developed during clinical placements and by the formal training programme.

- ❖ Ability to manage a respiratory service – the trainee will be required to demonstrate appropriate management and negotiating skills, participating in multidisciplinary staff organization and effective supervision of junior staff.
- ❖ Recognition of the importance of life-long learning

## **Content:**

### **In-Patient training and experience**

This is best obtained particularly in the early stages of HMT in a unit dealing with the full range of the commoner acute and chronic respiratory conditions. If training takes place in more specialized units appropriate attachments either to other specialized units or to a more general unit will be required to provide a sufficient and balanced range of training and experience.

### **Respiratory anatomy, pathology and microbiology**

Trainees should have a sound understanding of respiratory anatomy and gain experience in pathology and microbiology as related to respiratory medicine during the training period.



## **Intensive care**

Practical training and experience in intensive care are essential for training in respiratory medicine. All trainees must spend of 280 hours training in ICU.

## **Palliative medicine**

Trainees should gain experience in palliative care particularly in relation to patients with carcinoma of the bronchus. The trainees should have knowledge of palliative care services and understand the role of the nurses.

## **Pulmonary rehabilitation**

Trainees should understand the importance of pulmonary rehabilitation and seek opportunities to gain first hand experience in this area. A knowledge of methods of administration of supplemental oxygen and the appropriate selection of patients is essential.

## **Respiratory physiology**

Dedicated time within the training programme should be allocated for practical training and laboratory experience in measurement and interpretation of lung function tests. Trainees should be involved, with appropriate supervision, in issuing reports on physiological investigations. A period of attachment to a unit regularly performing more detailed assessments of pulmonary physiology is highly desirable. Experience should be gained in plethysmography, assessment of airway hyper-responsiveness, hypoxic challenge and exercise testing.

## **TEACHING AND LEARNING METHODS**

It is the responsibility of the Chairman of the Regional Training Committee to make sure that the trainees are provided with:

1. An appropriate structured training programme covering the syllabus training programme in respiratory medicine.
2. Appropriate clinical placements to enable the trainee to fulfill the requirements of the curriculum. It is emphasised however that it is the

responsibility of the trainee at all times to assume appropriate responsibility for self-assessment, continuing self-directed learning and the maintenance of competence. Trainees must be familiar with appropriate literature and using modern technology to acquire information from all the currently available sources and databases and be able to critically assess such data. The clinical placements will include:

- Ward-rounds
- Clinics
- Lectures
- Tutorials
- Knowledge of clinical trials (evidence based medicine)
- Multi-disciplinary groups
- Discussion groups
- Independent study
- Research
- Web-based research and use of the web for clinical information retrieval
- Journal

### **Learning methods**

- Ward-rounds
- Lectures
- Knowledge of clinical trials (evidence based medicine)
- Multi-disciplinary groups
- Discussion groups
- Research
- Web-based research and use of the web for clinical information retrieval
- Daily Assessment

### **Assessment methods**

- Observation by educational supervisor
- Record of achievements
- Multiple choice and problem solving tests
- Ward round, bronchoscopy assessment , outpatient letters

- discharge summary review
- Views of colleagues and patients

### Evaluation Strategies:

| Exams                                 |             | Percentage | Date       |
|---------------------------------------|-------------|------------|------------|
| Exams                                 | First Exam  | 20%        | --/--/---- |
|                                       | Second Exam | 20%        | --/--/---- |
|                                       | Final Exam  | 50%        | --/--/---- |
| Homework and Projects                 |             | 10%        |            |
| Discussions and lecture Presentations |             |            |            |

### Text Books & References:

1. Ahrens T, Rutherford K: Essentials of Oxygenation. Boston, Jones & Bartlett, 1993
2. Guyton AC, Hall JE: Textbook of Medical Physiology (10th Ed). Philadelphia, WB Saunders, 2000
3. McFadden E: Diseases of the respiratory system: Asthma. In Braunwald E, et al (eds): Harrison's Principles of Internal Medicine (15th Ed), pp 1456–1463. New York, McGraw-Hill, 2001
4. O'Donnell WJ, Drazen JM: Life-threatening asthma. In Grenvik A, et al (eds): Textbook of Critical Care (4th Ed), pp 1451–1459. Philadelphia, WB Saunders Company, 2000
5. Porth CB: Pathophysiology: Concepts of Altered Health States (6th Ed). Philadelphia, Lippincott Williams & Wilkins, 2002
6. Tierney L, et al (eds): Current Medical Diagnosis & Treatment (40th Ed). New York, McGraw-Hill, 2001
7. Lynn-McHale DJ, Carlson KK (eds): AACN Procedure Manual for Critical Care, pp 138–140. Philadelphia, WB Saunders, 2001
8. Lanken PN, Hanson CW III, Manaker S (eds): The Intensive Care Unit Manual, pp 838–840. Philadelphia, WB Saunders, 2001