

**LORMA COLLEGES**  
**Carlatan , City of San Fernando**

**COURSE DESCRIPTION**  
**BACHELOR OF SCIENCE IN RESPIRATORY THERAPY**

**GENERAL EDUCATION COURSES**

**English 1- Communications Skills 1**

This course aims at developing habits of thinking, listening, reading and writing skills. Emphasis is laid on mastering of basic grammatical structure in English.

**English 2- Communications Skills 2**

This course aims to reinforce and broaden the students' listening, speaking, reading and writing skills. It deals with the forms of oral communication, building word power, sentences construction, paragraph composition writing and preparing a term paper.

**Filipino 1- Sining ng Pakikipagtalastasan**

Ang kursong ito ay sumasaklaw sa komunikasyong pasalita at pasulat. Linangin ang apat na kasanayan sa pakikinig, pagsasalita, pagbasa, at pagsulat sa pamamagitan ng iba't ibang tekato at konteksto.

**Filipino 2- Pagbasa at Pagsulat**

Lilinangin ng kursong ito ang mga kasanayan sa pagbasa at pagsulat para sa pangangailangang akademiko ng mga mag-aaral. Sakop din ang paghahanda, pagpapayaman o paglilikom ng iba't ibang terminolohiyang gamit sa isang partikular na larangan o disiplina.

**Philo 1- Philosophy of Man**

This is a 3- unit course which deals with the basic concepts of philosophy, its nature, its roles and conditions. It focuses on the study of man himself. It is designed to expose students to deeper understanding of what it means to be fully human. Filipino various are included to lead students to come up with a common principle which every Filipino should possess, namely, the priceless value of peace and reconciliation, harmony and brotherhood and love for one another.

**Logic- Logic with Critical thinking**

This course is designed to introduce students to the basic concept of logic, and the applications used. It discusses the nature, functions and applications of reasoning, the uses of daily language, definition and formal providing theories and techniques. It includes a section on fallacies, which all expose errors in reasoning even in everyday communication and will provide ways and means to minimize these tendencies of violating the rules of logical reasoning.

**Lit 1- Philippine Literature**

The literature of the Philippines should focus on the literatures of the regions of the Philippines, whether in native or foreign languages from the beginning of Philippine history to

the present. Care should be taken to ensure adequate attention to literary texts and authors outside the National capital Region.

### **Math 1- College Algebra**

This course deals on signed numbers, definitions, theorems and methods of elementary algebra. It aims primarily to strengthen and maintain previously learned skill foundation laid in the high school years and enabling the students to be better prepared for more high standard kind of algebra.

### **Math 2- Plane Trigonometry**

The word “trigonometry” is based on the Greek word triangle-trigonon and measurement. This course deals with the indirect measurement of angles, line segments, and the sides of a triangle. It gives the emphasis on the study of the trigonometric functions of an acute angle, solution of a right triangles and oblique triangles, common logarithmic trigonometric formulas and identities.

### **Math 3- Basic Statistics**

This course deals with the introduction to the concepts of basic Statistics, also of probability, random variables, discrete and continuous probability, distribution, sampling theory, estimation, test of hypothesis.

### **Nat Sci 1- General Zoology with STS**

This course deals with the anatomy, physiology, cytology, taxonomy and histology of animals. It introduces the different kinds of protozoa and parasites. It includes the application through laboratory experiments. It covers also the dissection of animals particularly the frog.

### **Chem. 1- General & Inorganic Chemistry**

It is a course which deals with the study of the basic principles in chemistry, its test and measurements, the atomic structure of chemicals, the oxidation- reduction, reactions of substances, different gas laws, solutions- its preparations and methods of expressing their concentrations are also included which could help the students prepare and assimilate the basic inorganic chemistry. Applications through experiment that are most suitable for medical students are included.

### **Chem 2- Biochemistry**

This course deals with the study of the chemical composition of living matter and of the chemical changes that occur in it during life processes. It includes inorganic, organic and physical chemistry and also the constituents of the cell as a unit of structure and function and the chemical mechanism by which living matter is formed, maintained and eventually destroyed.

### **Physics 1- College Physics**

The course deals with the study of matter and energy. The course includes the topics basically in mechanics, electricity and magnetism and its application to the different medical fields. It gives an opportunity to the student to learn and understand the principles of physics by actual observation and performance through laboratory experiments.

### **Comp. 1- Basic Computer Concepts**

This course is an overview of computer science, which includes the history of the development of computers. Covers the study of the uses, development, applications of computer technology. Introduction to basic languages and principles of software and hardware.

### **Psycho 1- General Psychology with DE**

This course deals with the study of human behavior. It is particularly focused on the what, why and how of human behavior. Drug education and prevention has been incorporated in the subject matter. Practical applications of the concepts and theories to everyday lives of students are provided through the different learning experiences conducted with the students.

### **SocAnthro- Sociology and Anthropology with FP & HIV**

Sociology and Anthropology incorporates two areas relevant in studying culture and society in general. Sociology and Anthropology combined will aim to emphasize application of the finding in terms of social living and social interrelationship with man and his society as the subject matter. Anthropology will be dealing on what happened in the past and Sociology tackles on what is going on at the present time. It includes the family, its role, forms structure and Family Planning methods to help students understand how Sociology shapes the society of the future.

### **HC - Health Care 1 & RLE**

Concepts and principles in the provision of basic health care in terms of health promotion/maintenance and disease prevention at the individual and family level.

### **HealthEco- Health Economics w/ TLR**

This course deals with the Philippine economic life and experience. It includes the production of wealth, commodities, and services, their utilization after they have been produced. It also includes the study of Comprehensive Agrarian Reform program and Taxation, its theories and application in order to guide and assist the students in their tasks and their undertakings.

### **Rizal- Life, Works and Teaching of Dr. Jose Rizal**

This course deals with the life, works, and writings of Dr. Jose Protacio Mercado Rizal. It aims to present to the students the different attributes that made him acclaimed "Great Malayan". It presents the richness of Rizal's thought and teaching, which are his living legacies to human race. The course further aims to let the students see themselves in Rizal and that they may learn to love their country more.

### **His. 1- Philippine History**

This course deals with the history and government of the Philippines that serves as the guiding charter of the present Philippine government as well as the concerned individuals embodied in it. It reveals not only the kind of leadership, the political experience, the socio-moral values and the cultural heritage that we have, but also the aspirations and details of our country. The details on the history of our country can be shown ancient to present

### **Polsci - Philippine Government & New Constitution**

This course deals with the systematic and comprehensive study of the government, state and the constitution of the Philippines. Primarily it is connected with how the government operates and its functions to the growth and development of not only the government but also the society in general. A systematic comprehensive careful study of the course makes one aware of the definition and limitation of the power vested in the government and the rights of the people within the state. Furthermore, it enhances nationalistic feeling and cooperation of the people. Knowing the different principles that govern each public affair and relations help the student realize and feel that they need to take stand in the development of Philippine Society.

### **PE 1- Physical Fitness**

This course includes instructions and practice of alignment, positions, facing, posture and gymnastic free hand and other physical fitness exercises and skills.

### **PE 2- Rhythmic Activities**

PE 2 includes steps, movements and music related to dance particularly social dance, foreign dances and also the Philippine folk dances. These social dances when learned by the students foster camaraderie and sociability among the different members of the society. These dances aim to keep individual's suppleness and develop coordination, flexibility and to keep the body graceful.

### **PE 3- Individual & Dual Sports**

Practice in fundamental skills and study of the rules in Badminton, Table Tennis, Bowling, Karate, Arnis and Taekwondo and other Filipino sports.

### **PE 4- Team Sports**

This course deals on team sports or events competed or contested among groups or teams. Some of these team sports which involve physical exertions are the following: football/soccer, baseball/softball, European hockey, and giving emphasis to basketball.

### **Bible 1- Christian Foundation**

This course is an introduction of the story of the Bible, the nature and being of God and the power of God's word in one's life with emphasis of the life, person and ministry of the Lord Jesus Christ. It also embraces biblical and Christian values that will inspire the students to live uprightly and to achieve excellent and honorable aspirations.

### **Bible 2 - Christian Life and Ethics**

This course introduces the individual students in the development of dynamic Christian life and ethics that will gear to a potential and harmonious relationship with his God, his family, his community and his life.

## **NSTP 1 and 2 - Civic Welfare Training Service 1 and 2**

The Civic Welfare Training Service (CWTS) is one of the three components of the National Service Training Program (NSTP). NSTP is a program aimed at enhancing civic consciousness and defense preparedness in the youth. It is attained by developing the ethics of service and patriotism specifically designed to enhance the youth's active contribution to the general welfare. CWTS 2 is designed to train, encourage and help students to organize, plan, implement and evaluate community projects and activities. This will contribute to the general welfare and betterment of the life of community members that will lead to community development. It is intended for improving health, education, safety, livelihood, environment, entrepreneurship, arts, recreation, morals of the citizenry and other social welfare services.

## **PROFESSIONAL SUBJECTS**

### **Medical Terminology**

This course is offered to the first years BS Respiratory Therapy students. The students are introduced to the basic terms used by the paramedical courses. They are taught to analyze the different word parts, build medical terms and pronounce it correctly. This will help them relate to or understand other paramedical courses using the medical language.

### **Human Anatomy and Physiology**

This course will include instruction on basic structure and function of the body; basic chemistry; description of cells and tissues; function of each body system: Integumentary, skeletal, muscular, nervous, endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive; The three units lecture provides three hours of class discussion and presentations and a two unit laboratory that includes six hours of interactive and multi modal learning that incorporates library work and technologically-based presentations with group work and individual student participation. Basic medical terminology will also be introduced so that the student is better prepared to understand and communicate with other health care professionals. This course will also serve as the student's foundation in the study of more advance topics in anatomy and physiology.

### **Cardiopulmonary Anatomy & Pathophysiology**

An in-depth presentation of the cardiopulmonary system, its abnormalities, and corrective techniques as related to respiratory therapy. Study of concepts and theory of selected cardiopulmonary diseases, to include: definition, clinical manifestations, etiology, pathologic, radiological and laboratory findings; prevention, prognosis, and treatment.

### **Neuromuscular Anatomy & Pathophysiology**

The subject provides knowledge on normal and medical-surgical conditions that may lead to transient or permanent respiratory impairment which affects the neuromuscular system. Topics included are: (a) thoracic cage and spinal column deformities (b) effects of abdominal/thoracic incision on thoracic excursions and ventilation (c) neuromuscular disorders.

## **Fundamentals of Respiratory Therapy**

The course is designed to provide basic background knowledge in the following: Respiratory Therapy history, principles, techniques; physical and physiological bases for the following procedures: oxygen therapy, humidity and aerosol therapy, lung expansion therapy, environmental therapy, pulmonary function testing, pulmonary rehabilitation, mechanical ventilation, blood gas extraction and analysis.

## **Patient Assessment**

The subject offers basic learning experience in patient history-taking, initial evaluation methods. Special emphasis is given on normal and adventitious breath sounds; chest physical examination employing the techniques of (a) Inspection (b) Palpation (c) Percussion and (d) Auscultation. Emphasizes the analytical and observational skills necessary to perform respiratory assessment. Topics include: interviewing the patient and physical examination.

## **Principles of Pulmonary Rehabilitation**

The subject deals with rehabilitation techniques and procedures related and l to the practice of Respiratory Care: (a) chest expansion measurements and assessment (b) chest percussion and vibration (c) postural drainage (d) chest mobility exercises (e) diaphragm retraining and breathing exercises and (f) create a respiratory home care plan and follow-up. The roles of a Respiratory Care Practitioners in the elderly and procedures for homecare and nursing homes are also discussed.

## **Airway Management & Cardiopulmonary Resuscitation**

The subject deals with the following: (a) definition and causes of clinical death (b) physiology during cardio-pulmonary arrest and resuscitation (c) procedures for one- rescuer and double-rescuer CPR (d) role of a respiratory therapist in airway management (e) anatomical structures of the upper/lower airways (f) common causes of airway obstruction and techniques how to relieve such obstruction (g) artificial airways (h) intubation equipment and procedures (I) oropharyngeal, endotracheal suctioning and tracheostomy care.

## **Pharmacology**

Presents the general principles of pharmacology and action of the major respiratory drugs. In addition, the anatomy and physiology of the autonomic nervous system and its role in drug action will be covered. Drugs will be studied as groups and individually for site and mechanism of action, contraindications and side effects, clinical uses and routes of administration. Focuses on the drugs and drug groups that are administered by respiratory therapy personnel, or those that play a role in the care of cardiopulmonary patients.

## **Principles of Neonatal/Pediatric Respiratory Care**

This course provides an introduction to neonatal and pediatric respiratory care. Topics include fetal development and continuing through assessments of infants including, gestational age, APGAR scoring, and Silverman scoring neonatal and pediatric assessment, airway care and ventilation. Various heart/lung deficiencies will also be discussed as well as treatment modalities.

## **Principles of Pulmonary Physiology in the ICU**

Focuses on patient management and increases the application of problem base learning through the use of selected case studies in respiratory disease. Critical thinking and decision making skills are reinforced. Provides units on electrocardiography, critical care drugs, cardiac disease, and respiratory intensive care.

### **Mechanical Ventilation**

Emphasis on the technical components of mechanical ventilators, their classification, principles of operation, attachments, and the flow/pressure/volume curves generated by various ventilators, compliance, and resistance. An introduction to the management of patients receiving mechanical ventilation will be presented.

### **Ventilation & Gas Exchange Monitoring**

This course will present concepts of ventilation and gas exchange monitoring which the respiratory therapist performs or assists physicians in performing. Theory, application, and equipment for diagnosing respiratory pathologies through the diagnostic concepts used in respiratory therapy are part of this course.

### **Microbiology**

This subject deals with basic principles of microbiology and the different types of pathogens related to pulmonary medicine. Focus is given to mode of entry of these pathogens and the body's natural defense mechanism. Special emphasis is given to different decontamination procedures related to respiratory care.

### **ICU Crisis Management**

The subject deals with respiratory emergencies and their corresponding course of action to correct/alleviate patient status in the intensive care unit. Invasive and noninvasive techniques of patient monitoring are also discussed.

### **Test of Pulmonary Function & Structure**

This course will present concepts of pulmonary function testing and other cardiopulmonary diagnostic procedures which the respiratory therapist performs or assists physicians in performing. Theory, application, and equipment for diagnosing respiratory pathologies through the diagnostic concepts used in respiratory therapy.

### **Management & Health Care Ethics**

The subject provides information regarding the following: (a) different organizational structures of Respiratory Care Department (b) different management and supervision styles (c) personnel selection and staff education (d) inter-departmental relationships (e) evaluation and maintenance of respiratory care quality standards (f) departmental resources management (g) ethical standards

### **Respiratory Care Seminar 1**

The subject covers the topics regarding the application of the most recent innovations in Respiratory Care in the treatment cardiopulmonary impaired patients focusing on cases

commonly encountered in the hospitals. Special emphasis is given on the different respiratory care protocols.

### **Clinical Education 1**

This practicum applies knowledge and skills learned in co-requisite courses to patients in the clinical setting. It continues to build on competencies and skills acquired in previous semesters. Emphasis is placed on airway care, ventilator management, and a rotation through a pulmonary function lab. Presented at one or more of the program's clinical affiliates.

### **Advanced Mechanical Ventilation**

A continuation of the Mechanical Ventilation course. In-depth study of ventilator management in critical care, long-term care, and the home environment utilizing case studies, and clinical problem based learning sessions. The subject deals with the study of the following: (a) modifications of Inspiratory and expiratory flow patterns (b) reversal of Inspiratory : Expiratory (I:E) ratio during mechanical ventilation (c) nonconventional techniques/methods of ventilatory support- high frequency ventilation and ultra-high-frequency ventilation (d) new generation of mechanical ventilators.

### **Hemodynamic Monitoring**

The subject deals with the basic principles of pressure measurement in the different major veins/arteries and heart chambers, the basic technological principles in the apparatus and cardiac catheters, the principle of indirect cardiac output measurements, the hazards/complications of cardiac catheterization and its corresponding preventive aspects, assessment of the patients pulmonary capillary wedge pressure and its correlation with other hemodynamics parameter.

### **Respiratory Care Seminar 2**

The subject covers the topics regarding the application of the most recent innovations in Respiratory Care in the treatment of cardiopulmonary impaired patients focusing on special cases encountered in the hospitals. Respiratory care protocols lecture & discussion is a major part of this subject.

### **Clinical Education 2**

This practicum applies knowledge and skills learned in co-requisite courses and continue to build on competencies and skills acquired in previous semesters. Emphasis is placed on respiratory intensive care. Specialty rotations are established in neonatal/pediatric facilities. Presented at one or more of the program's clinical affiliates.

### **Teaching in HealthCare Setting**

Theoretical aspects of providing respiratory therapy at alternate sites. Includes components of home respiratory therapy, extended care units, long term care facilities, ventilator rehabilitation centers, physician offices, land/air transport, and outpatient diagnostic clinics. Introduces the fundamentals of teaching and learning theories.



**Clinical Internship Program (Total of 1500 hours)**

The Respiratory Therapy Internship is in the fourth year level of Bachelor of Science in Respiratory Therapy course. It is an intensive practical and theoretical training in the different sections in the clinical laboratory namely: Pulmonary Diagnostics, General Respiratory Care, Adult Intensive Care Unit, Neonatal & Pediatric Critical Care Unit, and Sleep Laboratory.