Course Specifications

General Information

Course name	Respiratory System
Course number	MDCN2622
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	5
Credit hours (practical)	1
Course Prerequisites	

Course Objectives

1 - - Identify and describe the anatomy of respiratory system (upper and lower).

2 - - Describe microscopic appearance of different parts of respiratory system

3 - - Describe the normal embryological development with of respiratory system and common congenital abnormalities

4 - - Describe and understand the physiology of respiration and acid base balance

5 - - Recognize the characteristics of microorganisms that cause infection of the respiratory system

6 - - Understand and discuss different respiratory diseases

7 - - Understand the mechanisms of action, pharmacokinetics, uses and adverse effects of commonly used drugs in the treatment of common types of respiratory diseases

Intended Learning Outcomes

Knowledge and Understanding	* Describe the anatomical, biochemical and physiological basis for respiration in the human body
Intellectual Skills	* explain symptoms, signs, investigations, and forms of treatments of respiratory system's anomalies
Professional Skills	* Order and interpret results of relevant diagnostic procedures and apply safe methods of pharmacotherapy
General Skill	* Critically appraise research studies guided by evidence-based medicine and demonstrate ability to work in diverse settings and communities

Course Contents

1 - Overview of respiratory system The nose & Paranasal Sinuses
2 - The pharynx The larynx
3 - Thoracic wall Diaphragm and respiratory muscle
4 - Trachea, Bronchial tree Pleura & lungs
5 - Histology of respiratory system
6 - Types of Respiration, Functions of Respiratory Passageways
7 - Pulmonary Ventilation: Mechanics of Ventilation
8 - Pulmonary Circulation
9 - Transport of Oxygen and Carbon Dioxide in the Blood
10 - Oxygen haemoglobin saturation curve Contribution of respiratory system to Acid Base Balance.
11 - Lower respiratory tract bacterial infections Respiratory tract viral infections
12 - Obstructive lung disease Restrictive lung disease
13 - Drugs Used for Bronchial Asthma & COPD
14 - Pulmonary infections
15 - Immunological Diseases of Respiratory System

Teaching and Learning Methods

1 - discussions during lectures
2 - case scenario simulation of common clinical cases
3 - quizzes and homework

Teaching and Learning Methods for the Disabled Students

1 - Lectures
2 - Help each student according to his needs and his condition
3 - Revision and Discussion sections

Students Assessment

Assessment Method	TIME	MARKS
paper 1 exam	60	40
paper 2 exam	60	40
practical exam	45	20

Books and References

Course note	Basic Histology. By Junqueira, Latest Edition
	Textbook of Medical physiology. By Guyton and Hall, Latest Edition
Essential books	Clinical Anatomy by Regions. By Richard S. Snell, 9th Edition.
	Human Physiology, from Cells to Systems. By Sherwood, Latest Edition
	Textbook of Biochemistry with Clinical Correlations. By Thomas Devlin, 7th edition
	Robbins Basic Pathology, 10th Edition. By Vinay Kumar, MBBS, MD, FRCPath, Abul K. Abbas, MBBS and Jon C. Aster, MD, PhD
	Lippincott's Illustrated Reviews: Pharmacology, 7th edition
Recommended books	Sherris Medical Microbiology, Sixth Edition 2015, by Ryan KJ, Ray CG

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introductory lecture	1	Understand the general outline of the respiratory system module	Be familiarized with the modalities of teaching throughout the course	Be introduced to the clinical implications of respiratory anatomy and physiology	Be introduced to the basic pulmonary function testing and arterial blood gases in respiratory diseases
Upper Respiratory Tract (Anatomy)	1	. Describe the structure of nasal cavity including nasal septum	Locate the openings of the paranasal air sinuses and naso-lacrimal duct in the meatuse	Describe nasal innervations, blood supply and its relation to epistaxis	Study the structure of nasopharynx and associated openings with their clinical importance
Pulmonary Ventilation	1	Describe the mechanics of pulmonary ventilation	Describe changes in lung volumes, alveolar pressure, pleural pressure, and trans-pulmonary pressure during normal breathing	Describe the significance of the major volume and capacities that are recorded during normal function test	Describe the chemical composition and function of the surfactant
Lower Respiratory Tract (Anatomy)	1	Describe the structure of various cartilages and membranes of the Describe the trachea including its relations and subdivision, larynx	Describe muscles of the larynx including their action, nerve and blood supply		
Pleura, lung and mediastinum (Anatomy)	1	Define pleura and pleural cavity, and name its parts and recesses	Discuss the pleural nerve supply	Compare between right and left lungs by describing their lobes, fissures and surfaces	Be familiarized with the bronchopulmonary segments of each lung.

Alveolar ventilation (Physiology)	1	Define alveolar ventilation . Describe the effect of dead space on alveolar ventilation	Describe the effects of alveolar ventilation on PCO2 and PO2		Use systematic approaches to utilize medical terms to describe ventilation process.
Pulmonary circulation (Physiology)	2	Describe bronchial circulation and the concept of physiological shunt Describe blood flow through the lungs and its distribution	Compare the pulmonary and systemic circulations listing the main differences between them		Use systematic approaches to utilize medical terms to describe pulmonary circulation.