Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIED SCIENCES

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Specification of

Respiratory System

Course Code. (A21P222)

2023

T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
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I. General Information:

1.	Course Title:	Respiratory System				
2.	Course Code:	A21P222				
3.	Credit Hours:	Credit Hours	Theory Contact Hours		Practical Contact Hours	
			Lecture	Tutorial/ Seminar	Lab	Clinical
		8	6	--	4	--
4.	Level/ Semester at which this Course is offered:	2nd Level / 2nd Semester				
5.	Pre –Requisite (if any):	Physiology, Biochemistry, Anatomy Histology , Pathology and Pharmacology.				
6.	Co –Requisite (if any):	None				
7.	Program (s) in which the Course is Offered:	Bachelor of Medicine and surgery				
8.	Language of Teaching the Course:	English				
9.	Location of Teaching the Course:	Faculty of Medicine				
10.	Prepared by:	Dr. Sadeq Saad Abdulmogni Dr. Rashad Abdul-Ghani				
11	Date and Number of Approval by Council:	2023				

II. Course Description:

The respiratory system course adopts a multidisciplinary approach to provide undergraduate

medical students with the fundamentals of the respiratory system. It combines basic and clinical subjects to provide students with the essential knowledge and understanding of the structure and function of the respiratory system in both healthy and diseased states, as well as the relevant practical and clinical skills. It is typically delivered through lecture presentations that incorporate interactive teaching, problem-based learning and case studies besides practical sessions to help students enhance their critical thinking.

III. Course Intended Learning Outcomes (CILOs): Upon successful completion of the course, students will be able to:		Referenced PILOs		
A. Knowledge and Understanding:		**I, P or M/A**		
a1	Describe the normal anatomical and histological structure of the respiratory system, as well as its normal physiological function.	**I**	**A1**	Describe the general and basic sciences related to human body structure and functions with emphasis on normal and abnormal conditions.
a2	Identify the etiology, epidemiology, pathophysiology, symptomatology, complications, diagnosis, management, as well as prevention and control of communicable and non-communicable respiratory diseases.	**A**	**A3**	Explain the pathological and pathogenesis changes in various diseases, and their etiological triggers including genetic, developmental, infectious, metabolic, endocrinal, autoimmune, neoplastic, traumatic, degenerative and occupational factors.
B. Intellectual Skills:				
b1	Differentiate between physiological and pathological performance of body cells.	**I**	**B1**	Compare between normal and abnormal conditions and predict the appropriate treatment or intervention.
b2	Distinguish between various respiratory diseases using the patient's medical	**P**	**B2**	Analyze and interpret the finding from history, clinical examination

	history, clinical manifestations and laboratory/radiologic findings.			and investigations to propose a diagnosis and develop a shared management plan for common acute, chronic and urgent physical and mental health presentations.
	C. Professional and Practical Skills:			
c1	Perform history taking, physical/clinical examinations, and correct laboratory and radiologic investigation requests and interpretations to diagnose respiratory diseases.	**P**	**C1**	Perform complete clinical examination and precise investigations to reach the final diagnosis.
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with respiratory diseases.	**A**	**C3**	Carry out routine medical procedure and demonstrate the ability of using common medical tools required for diagnosis and management with highly qualified competency.
	D. Transferable Skills:			
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	**P**	**D1**	Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means.
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.	**A**	**D2**	Work individually or in a team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.
I= Introduced, P=Practiced or M/A= Mastered/Advanced				

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
a1	Describe the normal anatomical and histological structure of the respiratory system, as well as its normal physiological function.	▪ Interactive lectures ▪ Discussion ▪ Office hours ▪ Self-learning	▪ Quizzes ▪ Final written exam
a2	Identify the etiology, epidemiology, pathophysiology, symptomatology, complications, diagnosis, management, as well as prevention and control of communicable and non-communicable respiratory diseases.	▪ Interactive lectures ▪ Discussion ▪ Case studies ▪ PBL (10%) ▪ Office hours ▪ Self-learning	▪ Quizzes ▪ Final written exam ▪ Final Practical exam

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b1	Differentiate between physiological and pathological performance of body cells.	▪ Interactive lectures ▪ Practical lab ▪ Seminars ▪ Discussion ▪ Case studies	▪ Final written exam ▪ Final practical exam
b2	Distinguish between various respiratory diseases using the patient's medical history, clinical manifestations and laboratory/radiologic findings.	▪ Interactive lectures ▪ Practical lab ▪ Seminars ▪ Discussion ▪ Case studies	▪ Final written exam ▪ Final practical exam

(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Perform history taking, physical/clinical examinations,	▪ Lab experiments ▪ Case studies	▪ Final practical exam ▪ OSPE

	and correct laboratory and radiologic investigation requests and interpretations to diagnose respiratory diseases.	▪ PBL	
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with respiratory diseases.	▪ Lab experiments ▪ Case studies ▪ PBL	▪ Final practical exam ▪ OSPE

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

Course Intended Learning Outcomes		Teaching Strategies	Assessment Strategies
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	▪ Seminars ▪ Discussion ▪ Case studies ▪ Self-learning	▪ Oral discussion ▪ Homework ▪ Teamwork
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.	▪ Seminars ▪ Discussion ▪ Case studies ▪ Self-learning	▪ Oral discussion ▪ Homework ▪ Teamwork

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Anatomy**	– Thoracic cage – Diaphragm – Muscles of thoracic wall	6	4	a1, b1, b2
		– Vessels of thoracic wall – Nerves of thoracic wall – Veins of thoracic wall		4	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		– Mediastinum – Nose, paranasal sinuses and nasolacrimal duct		4	
		– Pharynx (nasopharynx, oropharynx and laryngopharynx) – Larynx and vocal cords – Trachea and bronchial tree		4	
		– Lungs – Pleurae and pleural cavity		4	
		– Nerves of thorax: segmental innervations and autonomic innervations – Lymph drainage – Development and congenital anomalies		4	
Total				**24**	
2	**Physiology**	– Introduction & general functions of respiratory system – Mechanics of pulmonary ventilation and compliance	6	2	a1, a2, b1, b2
		– Pulmonary volumes & capacities – Spirometry		2	
		– Perfusion of the lungs – Alveolar ventilation (gas exchange and transport) – Ventilation/perfusion ratio		4	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		– Regulation of respiration & lung function tests		2	
		– Respiratory failure, hypoxia & cyanosis		4	
Total				**14**	
3	**Histology**	– Histological structure of the URT (nose, nasal sinuses, nasopharynx and larynx)	6	2	a1, b1, b2
		– Histological structure of the LRT (trachea, bronchi and bronchioles, lung parenchyma, pleurae, alveoli and alveolar septae)		2	
Total				**4**	
4	**Pathology**	**I. Upper respiratory tract** – Acute URT infections – Nasal tumors – Nasopharyngeal carcinoma and angiofibroma – Tumors of the larynx	6	4	a1, a2, b1, b2
		II. Lower respiratory tract: – Expansion disorders: atelectasis and lung collapse, pleural effusion & pneumothorax – Obstructive lung diseases: asthma, emphysema, chronic bronchitis, bronchiectasis & cystic fibrosis – Restrictive lung disorders: pneumoconiosis, etc.	6	10	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		– Interstitial lung diseases – Pulmonary infections: pneumonia, lung abscess & tuberculosis, fungal infections and parasitic infections – Vascular pulmonary disorders: edema, embolism & hypertension – LRT neoplasms: tracheal tumors, mesothelioma, lung carcinoma, bronchogenic carcinoma & lung carcinoids			
Total				**14**	
5	**Microbiology**	**I. Upper respiratory tract:** – Microbial etiology, pathogenesis and laboratory diagnosis of common cold and rhinitis and parainfluenza – Allergic rhinitis	6	2	a1, a2, b1, b2
		– Microbial etiology, pathogenesis and laboratory diagnosis of pharyngitis and tonsillitis		1	
		– Microbial etiology, pathogenesis and laboratory diagnosis of acute epiglottitis, laryngitis and croup		1	
		– Microbial etiology, pathogenesis and laboratory diagnosis of otitis media and		1	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		sinusitis			
		– Microbial etiology, pathogenesis and laboratory diagnosis of diphtheria		1	
		II. Lower respiratory tract: – Microbial etiology, pathogenesis and laboratory diagnosis of typical/atypical pneumonia		1	
		– Microbial etiology, pathogenesis and laboratory diagnosis of bronchitis, bronchiolitis and pertussis		1	
		– Microbial etiology, pathogenesis and laboratory diagnosis of tuberculosis		2	
		– Microbial etiology, pathogenesis and laboratory diagnosis of pulmonary anthrax, pneumonic plague and pulmonary tularemia		2	
		– Etiology, pathogenesis and laboratory diagnosis of fungal lung infections: *H. capsulatum*, *B. dermatitidis*, *C. immitis*, *C. neoformans*, *Aspergillus* species, *P. jeroveci*, etc.		2	
		– Etiology, pathogenesis and laboratory diagnosis of viral lung infections: parainfluenza and influenza, avian influenza, SARS,		2	

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		MERS, COVID-19 and Hantavirus pulmonary syndrome (HBS)			
Total				**16**	
6	**Pharmacology**	– Drugs used for treatment of cough (antitussive and mucolytic drugs) – Drugs used for treatment of bronchial asthma (anti-histamines and bronchodilators)	6	2	a1, a2, b1, b2
		– Respiratory stimulants and inhibitors (analeptic agents)		2	
		– Antituberculous drugs		2	
Total				**6**	
7	**Medicine**	**Clinical picture, diagnosis, complications, treatment & prognosis of:**	6		a1, a2, b1, b2
		– Chronic obstructive pulmonary disease, restrictive lung disorders & bronchiectasis		2	
		– Bronchial asthma		2	
		– Pneumonia – Pleural effusion		2	
		– Pulmonary tuberculosis		2	
Total				**8**	
8	**Pediatrics**	**Clinical picture, diagnosis,**	6		

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
		complications, treatment & prognosis of:			
		– Upper respiratory infections – Croup		2	a1, a2, b1, b2
		– Lower respiratory infections – Bronchial asthma – Infant respiratory distress syndrome		2	
		– Childhood tuberculosis		2	
Total				**6**	
9	**Surgery**	– Chest injuries	6	2	a1, a2, b1, b2
		– Hemothorax & pneumothorax		2	
		– Lung tumors		1	
		– Empyema & lung abscess		2	
		– Post-operative pulmonary complications		1	
Total				**8**	
10	**Final Theoretical Exam**	**-MCQs and essay questions**	**7th**	**2**	a1, a2, b1, b2
Number of Weeks /and Units Per Semester			**7 W**	**١٠٢**	

B. Case Studies and Practical Aspect:

No.	Subject/Tasks	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	**Anatomy**			
	– Thoracic cage, thoracic wall (muscles, vessels and nerves)	6	3	c2, b1, b2, d1,d2
	– Mediastinum		2	
	– Nose, pharynx and larynx		3	
	– Trachea, lungs, pleurae and nerves of the thorax		3	
	Total		**11**	
2	**Physiology**			
	– Spirometry and other lung function tests	6	4	c1, b1, b2,
	– Pulmonary volumes & capacities		4	
	Total		**8**	
3	**Histology**			
	– Histological structure of nose, nasal sinuses, nasopharynx and larynx	6	2	c2, b1, b2, d1,d2
	– Histological structure of trachea, bronchi and bronchioles, lung parenchyma, pleurae, alveoli and alveolar septae		2	
	Total		**4**	
4	**Pathology**			
	– Pathology of the URT	6	2	c2, b1, b2, d1,d2
	– Pathology of the LRT		6	
	Total		**8**	
5	**Microbiology**			
	– Microorganisms causing pharyngitis and tonsillitis	6	2	c2, b1, b2, d1,d2
	– Microorganisms causing otitis media and sinusitis		2	
	– *Corynebacterium diphtheria*		2	
	– Microorganisms causing pneumonia		2	

No.	Subject/Tasks	Week Due	Contact Hours	Learning Outcomes (CILOs)
	– *Mycobacterium tuberculosis*		2	
	– Fungi causing lung infections		2	
	Total		**12**	
6	**Final practical exam**	**6th**	**2**	b1, b2,c1, c2
Number of Weeks /and Units Per Semester		**6 W**	**45**	

V. Teaching Strategies of the Course:

- Interactive lectures
- Discussion
- Case studies
- Seminars
- PBL
- Office hours
- Self-learning
- Lab experiments

VI. Assessment Methods of the Course:

- Quizzes
- Final written exam
- Final practical exam
- OSPE
- Oral discussion
- Homework

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Quizzes	3rd	5	5%	a1,a2
2	Oral discussion & Homework	5th	15	15%	d1,d2
3	Final Practical Exam & OSPE	6th	30	30%	b1, b2,c1, c2
4	Final Theoretical Exam	7th	50	50%	a1,a2,b1,b2
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s):

1- S Standring, 2016, Gray's Anatomy: The Anatomical Basis of Clinical Practice, 41st Edition, Elsevier.

2- K E Barrett, S M Barman, S Boitano, H L Brooks, 2015, Ganong's Review of Medical Physiology, 25th Edition, New York, McGraw-Hill Medical Education.

3- L Junqueira, J Carneiro, 2005, Basic Histology. Text and Atlas, 11th Edition, New York, McGraw-Hill Medical.

4- R Goering, H Dockrell, M Zuckerman, P Chiodini, 2019, Mims' Medical Microbiology and Immunology, 6th Edition, Edinburgh, Elsevier.

5- V Kumar, A Abas, J Aster, 2017, Robbins Basic Pathology, 10th Edition, Elsevier.

6- M A Clark, R Finkel, J A Rey, K Whalen, 2011, Lippincott's Illustrated Reviews: Pharmacology, 5th Edition, Philadelphia, Lippincott Williams & Wilkins.

2- Essential References:

1- R S Snell, 2000, Clinical Anatomy for Medical Students, 6th Edition, Washington, Little, Brown and Company.

2- J E Hall, 2013, Guyton and Hall Textbook of Medical Physiology, 13th Edition, Philadelphia, Saunders.

3- V Kumar, A Abas, J Aster, 2020, Robbins & Cotran Pathologic Basis of Disease, 9th

Edition, Philadelphia, Saunders.

4- C Ray, K J Ryan, 2003, Sherris Medical Microbiology: An Introduction to Infectious Diseases, 4th Edition, New York, McGraw-Hill Medical Education.

5- B Katzung, 2017, Basic and Clinical Pharmacology, 14th Edition, New York, McGraw-Hill Medical Education.

3- Electronic Materials and Web Sites etc.:

Websites

Medical news today

https://www.medicalnewstoday.com/articles/307076

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	**Other policies:**

	The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Plan (Syllabus) of

Respiratory System

Course Code. (A21P222)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:		**Office Hours**						
Location& Telephone No.:	-----							
E-mail:	--@--.--	SAT	SUN	MON	TUE	WED	THU	

2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Sadeq Saad Abdulmogni Dr. Rashad Abdul-Ghani	Dr. Ahmed Hudna	Assoc.prof. Mohammed Al-eyrani	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

II. General Information:

	Course Title:	**Respiratory System**				
	Course Code:	A21P222				
	Credit Hours:	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/Seminar**	**Lab**	**Clinical**
		8	6	--	4	--
	Level/ Semester at which this Course is offered:	2nd Level / 2nd Semester				
	Pre –Requisite (if any):	Physiology, Biochemistry, Anatomy Histology , Pathology and Pharmacology.				
	Co –Requisite (if any):	None				
	Program (s) in which the Course is Offered:	Bachelor of Medicine and surgery				
	Language of Teaching the Course:	English				
	Location of Teaching the Course:	Faculty of Medicine				
	Prepared by:	Dr. Sadeq Saad Abdulmogni Dr. Rashad Abdul-Ghani				
11	**Date and Number of Approval by Council:**	2023				

III. Course Description:

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Sadeq Saad Abdulmogni Dr. Rashad Abdul-Ghani	Dr. Ahmed Hudna	Assoc.prof. Mohammed Al-eyrani	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

The respiratory system course adopts a multidisciplinary approach to provide undergraduate medical students with the fundamentals of the respiratory system. It combines basic and clinical subjects to provide students with the essential knowledge and understanding of the structure and function of the respiratory system in both healthy and diseased states, as well as the relevant practical and clinical skills. It is typically delivered through lecture presentations that incorporate interactive teaching, problem-based learning and case studies besides practical sessions to help students enhance their critical thinking.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

	A**. Knowledge and Understanding:**
a1	Describe the normal anatomical and histological structure of the respiratory system, as well as its normal physiological function.
a2	Identify the etiology, epidemiology, pathophysiology, symptomatology, complications, diagnosis, management, as well as prevention and control of communicable and non-communicable respiratory diseases.
	B**. Intellectual Skills:**
b1	Differentiate between physiological and pathological performance of body cells.
b2	Distinguish between various respiratory diseases using the patient's medical history, clinical manifestations and laboratory/radiologic findings.
	C. Professional and Practical Skills:
c1	Perform history taking, physical/clinical examinations, and correct laboratory and radiologic investigation requests and interpretations to diagnose respiratory diseases.
c2	Prescribe appropriate, safe and affordable drugs for initial treatment of patients with respiratory diseases.
	D. Transferable Skills:
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.
d2	Act independently or collaboratively as a member of teamwork and communicate effectively with others.

I= Introduced, P=Practiced or M/A= Mastered/Advanced

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Anatomy	– Thoracic cage – Diaphragm – Muscles of thoracic wall	6	4
		– Vessels of thoracic wall – Nerves of thoracic wall – Veins of thoracic wall		4
		– Mediastinum – Nose, paranasal sinuses and nasolacrimal duct		4
		– Pharynx (nasopharynx, oropharynx and laryngopharynx) – Larynx and vocal cords – Trachea and bronchial tree		4
		– Lungs – Pleurae and pleural cavity		4
		– Nerves of thorax: segmental innervations and autonomic innervations – Lymph drainage – Development and congenital anomalies		4

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
Total				**24**
2	**Physiology**	– Introduction & general functions of respiratory system – Mechanics of pulmonary ventilation and compliance	6	2
		– Pulmonary volumes & capacities – Spirometry		2
		– Perfusion of the lungs – Alveolar ventilation (gas exchange and transport) – Ventilation/perfusion ratio		4
		– Regulation of respiration & lung function tests		2
		– Respiratory failure, hypoxia & cyanosis		4
Total				**14**
3	**Histology**	– Histological structure of the URT (nose, nasal sinuses, nasopharynx and larynx)	6	2
		– Histological structure of the LRT (trachea, bronchi and bronchioles, lung parenchyma, pleurae, alveoli and alveolar septae)		2
Total				**4**
4	**Pathology**	**I. Upper respiratory tract** – Acute URT infections – Nasal tumors	6	4

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		– Nasopharyngeal carcinoma and angiofibroma – Tumors of the larynx		
		II. Lower respiratory tract: – Expansion disorders: atelectasis and lung collapse, pleural effusion & pneumothorax – Obstructive lung diseases: asthma, emphysema, chronic bronchitis, bronchiectasis & cystic fibrosis – Restrictive lung disorders: pneumoconiosis, etc. – Interstitial lung diseases – Pulmonary infections: pneumonia, lung abscess & tuberculosis, fungal infections and parasitic infections – Vascular pulmonary disorders: edema, embolism & hypertension – LRT neoplasms: tracheal tumors, mesothelioma, lung carcinoma, bronchogenic carcinoma & lung carcinoids	6	10
Total				**14**
5	**Microbiology**	**I. Upper respiratory tract:** – Microbial etiology, pathogenesis and laboratory diagnosis of common cold and rhinitis and parainfluenza	6	2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		– Allergic rhinitis		
		– Microbial etiology, pathogenesis and laboratory diagnosis of pharyngitis and tonsillitis		1
		– Microbial etiology, pathogenesis and laboratory diagnosis of acute epiglottitis, laryngitis and croup		1
		– Microbial etiology, pathogenesis and laboratory diagnosis of otitis media and sinusitis		1
		– Microbial etiology, pathogenesis and laboratory diagnosis of diphtheria		1
		II. Lower respiratory tract: – Microbial etiology, pathogenesis and laboratory diagnosis of typical/atypical pneumonia		1
		– Microbial etiology, pathogenesis and laboratory diagnosis of bronchitis, bronchiolitis and pertussis		1
		– Microbial etiology, pathogenesis and laboratory diagnosis of tuberculosis		2
		– Microbial etiology, pathogenesis and laboratory diagnosis of pulmonary anthrax, pneumonic plague		2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		and pulmonary tularemia		
		– Etiology, pathogenesis and laboratory diagnosis of fungal lung infections: *H. capsulatum*, *B. dermatitidis*, *C. immitis*, *C. neoformans*, *Aspergillus* species, *P. jeroveci*, etc.		2
		– Etiology, pathogenesis and laboratory diagnosis of viral lung infections: parainfluenza and influenza, avian influenza, SARS, MERS, COVID-19 and Hantavirus pulmonary syndrome (HBS)		2
Total				**16**
6	**Pharmacology**	– Drugs used for treatment of cough (antitussive and mucolytic drugs) – Drugs used for treatment of bronchial asthma (anti-histamines and bronchodilators)	6	2
		– Respiratory stimulants and inhibitors (analeptic agents)		2
		– Antituberculous drugs		2
Total				**6**
7	**Medicine**	**Clinical picture, diagnosis, complications, treatment & prognosis of:**	6	
		– Chronic obstructive		2

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		pulmonary disease, restrictive lung disorders & bronchiectasis		
		– Bronchial asthma		2
		– Pneumonia – Pleural effusion		2
		– Pulmonary tuberculosis		2
Total				**8**
8	**Pediatrics**	**Clinical picture, diagnosis, complications, treatment & prognosis of:**	6	
		– Upper respiratory infections – Croup		2
		– Lower respiratory infections – Bronchial asthma – Infant respiratory distress syndrome		2
		– Childhood tuberculosis		2
Total				**6**
9	**Surgery**	– Chest injuries	6	2
		– Hemothorax & pneumothorax		2
		– Lung tumors		1
		– Empyema & lung abscess		2
		– Post-operative pulmonary complications		1

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
Total				**8**
10	**Final Theoretical Exam**	**-MCQs and essay questions**	**7th**	**2**
Number of Weeks /and Units Per Semester			**7**	**102**

B. Case Studies and Practical Aspect:

No.	Subject/Tasks	Week Due	Contact Hours
1			
	– Thoracic cage, thoracic wall (muscles, vessels and nerves)	6	3
	– Mediastinum		2
	– Nose, pharynx and larynx		3
	– Trachea, lungs, pleurae and nerves of the thorax		3
		Total	**11**
2			
	– Spirometry and other lung function tests	6	4
	– Pulmonary volumes & capacities		4
	Total		**8**
3			
	– Histological structure of nose, nasal sinuses, nasopharynx and larynx	6	2
	– Histological structure of trachea, bronchi and		2

No.	Subject/Tasks	Week Due	Contact Hours
	bronchioles, lung parenchyma, pleurae, alveoli and alveolar septae		
	Total		**4**
4			
	– Pathology of the URT	6	2
	– Pathology of the LRT		6
	Total		**8**
5			
	– Microorganisms causing pharyngitis and tonsillitis	6	2
	– Microorganisms causing otitis media and sinusitis		2
	– *Corynebacterium diphtheria*		2
	– Microorganisms causing pneumonia		2
	– *Mycobacterium tuberculosis*		2
	– Fungi causing lung infections		2
	Total		**12**
6	**Final practical exam**	**6**	**2**
Number of Weeks /and Units Per Semester		**6**	**45**

V. Teaching Strategies of the Course:

- Interactive lectures
- Discussion
- Case studies
- Seminars
- PBL
- Office hours
- Self-learning

- Lab experiments

VI. Assessment Methods of the Course:

- Quizzes
- Final written exam
- Final practical exam
- OSPE
- Oral discussion
- Homework

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	**Quizzes**	3rd	5	5%
2	**Oral desiccation & Homework**	5th	15	15%
3	**Final Practical Exam & OSPE**	6th	30	30%
4	**Final Theoretical Exam**	7th	50	50%
Total			**100**	**100%**

IX. Learning Resources:

1- Required Textbook(s):

1- S Standring, 2016, Gray's Anatomy: The Anatomical Basis of Clinical Practice, 41st Edition, Elsevier.

2- K E Barrett, S M Barman, S Boitano, H L Brooks, 2015, Ganong's Review of Medical Physiology, 25th Edition, New York, McGraw-Hill Medical Education.

3- L Junqueira, J Carneiro, 2005, Basic Histology. Text and Atlas, 11th Edition, New York, McGraw-Hill Medical.

4- R Goering, H Dockrell, M Zuckerman, P Chiodini, 2019, Mims' Medical Microbiology and Immunology, 6th Edition, Edinburgh, Elsevier.

5- V Kumar, A Abas, J Aster, 2017, Robbins Basic Pathology, 10th Edition, Elsevier.

6- M A Clark, R Finkel, J A Rey, K Whalen, 2011, Lippincott's Illustrated Reviews:

Pharmacology, 5th Edition, Philadelphia, Lippincott Williams & Wilkins.

2- Essential References:

1- R S Snell, 2000, Clinical Anatomy for Medical Students, 6th Edition, Washington, Little, Brown and Company.

2- J E Hall, 2013, Guyton and Hall Textbook of Medical Physiology, 13th Edition, Philadelphia, Saunders.

3- V Kumar, A Abas, J Aster, 2020, Robbins & Cotran Pathologic Basis of Disease, 9th Edition, Philadelphia, Saunders.

4- C Ray, K J Ryan, 2003, Sherris Medical Microbiology: An Introduction to Infectious Diseases, 4th Edition, New York, McGraw-Hill Medical Education.

5- B Katzung, 2017, Basic and Clinical Pharmacology, 14th Edition, New York, McGraw-Hill Medical Education.

3- Electronic Materials and Web Sites etc.:

Websites:

1- The Visible Body Learn Site
https://www.visiblebody.com/learn/nervous

2- Medical news today
https://www.medicalnewstoday.com/articles/307076

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.

5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply**.**
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.