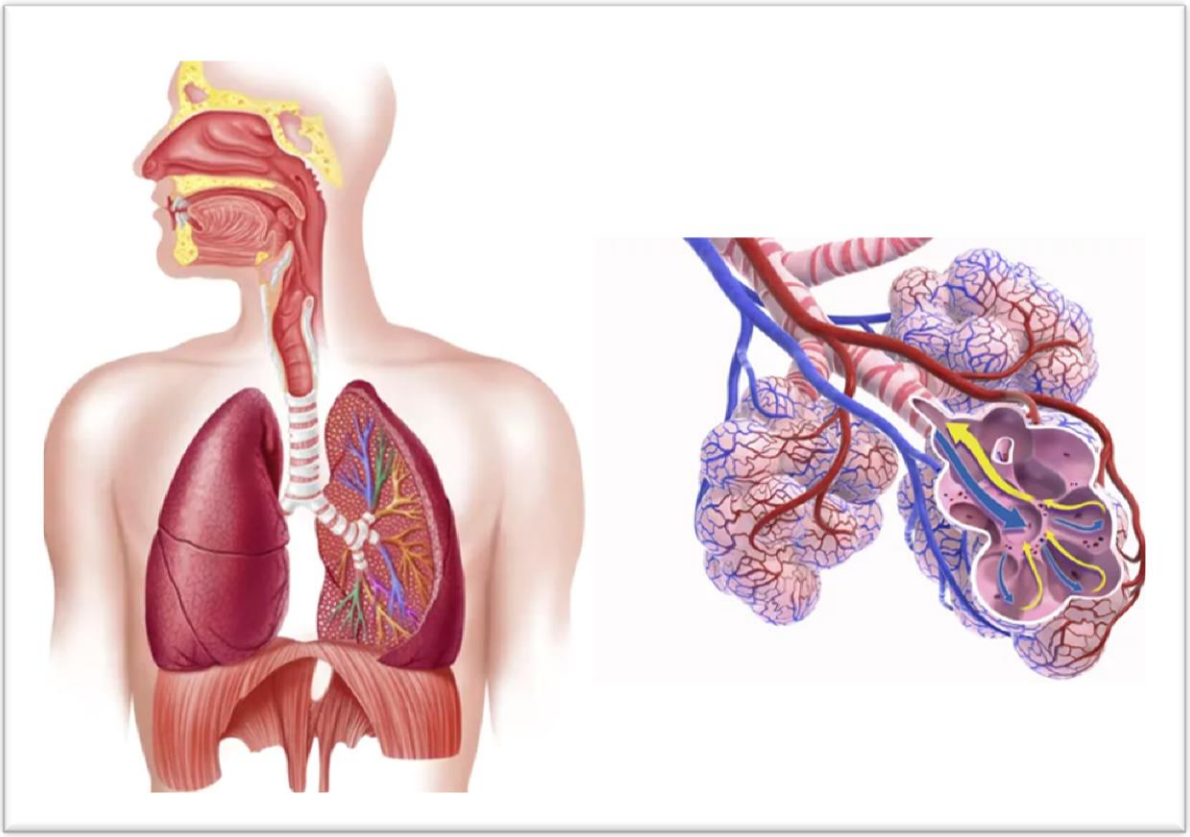
Kingdom of Saudi Arabia
Ministry of Higher Education
Northern Border University (NBU)
College of Medicine
Department of surgery

المملكة العربية السعودية
وزارة التعليم
جامعة الحدود الشمالية
كلية الطب
قسم الجراحة

STUDY GUIDE

Respiratory Module

(1200304)



Course coordination

Module Coordinator : **Dr. Wajid Ali Chatha** (chaudhary.chatha@nbu.edu.sa)

Female-section Coordinator : **Dr. Hala Abdeldayem Mohammed**
(hala.abdeldayem@yahoo.com)

Course Identification

1. Credit hours	03 hours
2. Level / year at which this course is offered	**3rd year**
3. Pre-requisites for this course	Core Courses of: General Anatomy, Cell & Tissue, Biochemistry, Physiology, Pathology

Course committee member

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Dr. Wajid Ali Chatha	Anatomy/ Course coordinator	chaudhary.chatha@nbu.edu.sa
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Actual Learning Hours (Copy and paste the table from courses specification)

No	Activity	Learning Hours
Contact Hours		
1.	**Lecture**	36
2.	**Practical**	20
3.	**PBL**	08
4.	**Clinical case presentation (CP)**	01
	Total	**121**
(Each One credit hour equal 40 learning hours) the total leaning hours *Other Learning Hours are distributed in the following items		
1	**Study**	--
2	**Assignments**	08
3	**Library**	06
4	**Projects/Research Essays/Theses**	06
5	(specify) **Others**	--
	Total	**20**

Course Objectives (Copy and paste the table from courses specification)

1. Course Description

- This course is intended to help the students to gain the basic knowledge and skills about the normal structure, function and pathological conditions of the Respiratory system.
- Beside the scientific knowledge and technical skills gained, the student should be able to perform a physical examination and know the principles of the common health problems associated with the Respiratory system.
- Student should be able to deal with these common health problems and Outline their management.

2. Course Main Objective

On completion of this course the students should be able to :

a. *Know the structure and function of the human Respiratory System and compare it with abnormal structure and function.*
b. *Know the assessment of the Respiratory System and how its function is altered in common disease states.*
c. *Acquire skills and working knowledge and understanding of the principles and concepts applicable to the Respiratory System in general.*
d. *Provide the basis for the study of common clinical conditions and disorders, and for clinical examination together with performing simple clinical procedures related to the Respiratory System and its management*

Course Learning Outcomes (Copy and paste the table from courses specification)

	CLOs	Aligned PLOs
1	**Knowledge:**	
1.1	Describe the internal and external structure, blood supply and innervations of the nose, the Para nasal sinuses, pharynx and larynx.	K1
1.2	Outline the gross and microscopic of the pleural cavity, the lung lines of pleural reflection as well as structure and arrangement of airways and blood vessels in the lungs.	K1
1.3	Demonstrate the pharmacological drugs used in treatment respiratory diseases	K1
1.4	Record the mechanism of inspiration and expiration and the measurement of lung volume and capacities, the carriage of oxygen and CO2 in the blood also, explain the role of carbon dioxide in blood and its role in acid-base balance.	K1
1.5	State the neural and chemical control of breathing, particularly with reference to different types of respiratory failure and recognize common tests of lung function.	K2
1.6	Outline the classification, microbiology and principles of diagnosis and treatment of pneumonias, tuberculosis, interstitial lung disease with its pathology, occupational lung disease and the condition of asthma, its presentation, diagnosis and treatment.	K3,4

	CLOs	Aligned-PLOs
2	**Skills :**	
2.1	Predict the gross features of different parts of respiratory system.	S3
2.2	Demonstrate the microscopic features of different parts of respiratory system.	S1
2.3	Employ the laboratory and radiological tests for proper and specific diagnosis of respiratory system diseases.	S4
2.4	Demonstrate the skills of writing an appropriate prescription.	S6
2.5	Employ the Pulmonary Functions Test and interpret the results.	S4
3	**Competence:**	
3.1	Analyze history and examination data to assess patients' medical and surgical problems.	C1
3.2	Manipulate certain noninvasive diagnostic maneuver for diagnosis of certain diseases.	C3
3.3	Interpret the results of clinical, laboratory, and radiological findings for proper diagnosis and prognosis of the respiratory diseases.	C6
3.4	Acquire the skill of self-learning from updated medical information from different approved sources in the web.	C8

Course Content (Copy and paste the table from courses specification)

No	List of Topics	Contact Hours
1.	Nasal Cavity and Para nasal sinuses	1
2.	Larynx and Pharynx	1
3.	Upper Respiratory Tract	1
4.	URT- infection (1)	1
5.	**P1**- Structure of the nose, Para nasal air sinuses	1

6.	Pulmonary ventilation & Respiratory mechanic	1
7.	Trachea and bronchi & Pleura	1
8.	Lower Respiratory Tract and Lungs	1
9.	Pulmonary Volumes and capacities	1
10.	**P2- Histology of the respiratory tract**	1
11.	Pulmonary Circulation blood flow & capillary dynamics	1
12.	Lungs and Respiratory movements	1
13.	URT- infection(2)	1
14.	Bacterial pneumonia	1
15.	**PBL1a-** Bronchial Asthma	1
16.	**P3- Anatomy of Larynx & Pharynx**	1
17.	Diffusion of gases in pulmonary system	1
18.	ARDS and Pneumonia	1
19.	Transport of Oxygen in Blood & Carbon Dioxide	1
20.	**P4- Pulmonary functions tests I** Structure of pharynx and larynx	1
21.	Emphysema & chronic bronchitis	1
22.	Nervous Regulation of Respiration	1
23.	**P5- Anatomy of Trachea, lung & Pleural Cavity**	1
24.	Asthma and Tuberculosis	1
25.	Tuberculosis	1
26.	Acid – Base Balance	1
27.	Drugs used in bronchial asthma	1
28.	**P6 Pulmonary functions tests II**	1

29.	Chemical Regulation of Respiration	1
30.	Pulmonary vasculature diseases	1
31.	Viral & Fungal pneumonia	1
32.	Development of the respiratory system	1
33.	**PBL-1b-** Bronchial Asthma	1
34.	**P7- Lab diagnosis of upper respiratory tract infections**	1
35.	Respiratory tract tumors	1
36.	Clinical approach to patients with respiratory diseases	1
37.	**P8- Blood gases and Acid base analysis .**	1
38.	Paragonimiosis	1
39.	Effect of high altitude on respiratory physiology	1
40.	Treatment of Pulmonary TB	1
41.	Treatment of pulmonary embolism	1
42.	**P9- None neoplastic lesions of the respiratory tract**	1
43.	Interstitial lung diseases	1
44.	**Clinical Presentation -**Pulmonary Tuberculosis and lung tumors	1
45.	Drugs used in COPD	1
46.	**PBL2a-** Bronchial Carcinoma.	1
47.	**P10-** Pneumonia and T.B	1
48.	Radiology of the lungs	1
49.	Pneumothorax and haemothorax	1
50.	**P11-** None neoplastic lesions of the respiratory tract	1
51.	**PBL2b-** Bronchial Carcinoma	1

Total	51

Teaching strategies and Assessment Methods for Students (Copy and paste the table from courses specification)

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Describe the internal and external structure, blood supply and innervations of the nose, the Para nasal sinuses, pharynx and larynx.	Lecture	written exam
1.2	Outline the gross and microscopic of the pleural cavity, the lung lines of pleural reflection as well as structure and arrangement of airways and blood vessels in the lungs.	Lecture	written exam
1.3	Recall the structure of typical thoracic vertebra and rib and the relations and the arrangement of muscles in the thoracic wall and diaphragm also, memorize the function and distribution of the intercostal nerves, arteries and veins.	Lecture	written exam
1.4	Record the mechanism of inspiration and expiration and the measurement of lung volume and capacities, the carriage of oxygen and CO2 in the blood also, explain the role of carbon dioxide in blood and its role in acid-base balance	Lecture Case study	written exam
1.5	State the neural and chemical control of breathing, particularly with reference to different types of respiratory failure and recognize common tests of lung function.	Lecture Case study	written exam
1.6	Outline the classification, microbiology and principles of diagnosis and treatment of pneumonias, tuberculosis, interstitial lung disease with its pathology, occupational lung disease and the condition of asthma, its presentation, diagnosis and treatment.	Lecture Case study	written exam
2.0	**Skills**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	Predict the gross features of different parts of respiratory system.	Lecture	OSPE
2.2	Demonstrate the microscopic features of different parts of respiratory system	Lecture	OSPE
2.3	Employ the laboratory and radiological tests for proper and specific diagnosis of respiratory system diseases	Lecture Case scenarios	OSPE PBL checklist
2.4	Demonstrate the skills of writing an appropriate prescription.	Lecture Problem solving	OSPE PBL checklist
3.0	**Competence**		
3.1	Analyze history and examination data to assess patients' medical and surgical problems.	PBL	PBL checklist
3.2	Manipulate certain noninvasive diagnostic maneuver for diagnosis of certain diseases.	PBL	OSPE PBL checklist
3.3	Interpret the results of clinical, laboratory, and radiological findings for proper diagnosis and prognosis of the respiratory diseases.	PBL	OSPE PBL checklist
3.4	Acquire the skill of self-learning from updated medical information from different approved sources in the web.	PBL	PBL checklist

Assessment Tasks for Students (Copy and paste the table from courses specification)

#	Assessment task*	Week Due	Percentage of Total Assessment Score

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	QUIZ – I	2ND	15%
2	QUIZ – II	3RD	15%
3	PRACTICAL EXAM	4TH	20%
4	FINAL EXAM	4TH	40%
5	PBL	All weeks	7%
6	CLINICAL PRESENTATION	3rd	3%

Course blueprint (% of total summative marks in blueprint is to be given in the range)

Course title Respiratory Module 1200304 (Course code 1202541)

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
Nasal Cavity and Para nasal sinuses	Lecture	Written exams / OSPE	1.54	0-5%
Larynx and Pharynx	Lecture	Written exams / OSPE	1.54	0-5%

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
Upper Respiratory Tract	Lecture	Written exams / OSPE	1.54	0-5%
URT- infection (1)	Lecture	Written exams / OSPE	1.54	0-5%
P1- Structure of the nose, Para nasal air sinuses	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Pulmonary ventilation & Respiratory mechanic	Lecture	Written exams / OSPE	1.54	0-5%
Trachea and bronchi & Pleura	Lecture	Written exams / OSPE	1.54	0-5%
Lower Respiratory Tract and Lungs	Lecture	Written exams / OSPE	1.54	0-5%
Pulmonary Volumes and capacities	Lecture	Written exams / OSPE	1.54	0-5%
P2- Histology of the respiratory tract	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Pulmonary Circulation blood flow & capillary dynamics	Lecture	Written exams / OSPE	1.54	0-5%
Lungs and Respiratory movements	Lecture	Written exams / OSPE	1.54	0-5%

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
URT- infection(2)	Lecture	Written exams / OSPE	1.54	0-5%
Bacterial pneumonia	Lecture	Written exams / OSPE	1.54	0-5%
PBL1a- Bronchial Asthma	Self directed supervised learning	Written exams / OSPE	3.08	0-5%
P3- Anatomy of Larynx & Pharynx	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Diffusion of gases in pulmonary system	Lecture	Written exams / OSPE	1.54	0-5%
ARDS and Pneumonia	Lecture	Written exams / OSPE	1.54	0-5%
Transport of Oxygen in Blood & Carbon Dioxide	Lecture	Written exams / OSPE	1.54	0-5%
P4- Pulmonary functions tests I Structure of pharynx and larynx	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Emphysema & chronic bronchitis	Lecture	Written exams / OSPE	1.54	0-5%
Nervous Regulation of Respiration	Lecture	Written exams / OSPE	1.54	0-5%

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
P5- Anatomy of Trachea, lung & Pleural Cavity	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Asthma and Tuberculosis	Lecture	Written exams / OSPE	1.54	0-5%
Tuberculosis	Lecture	Written exams / OSPE	1.54	0-5%
Acid – Base Balance	Lecture	Written exams / OSPE	1.54	0-5%
Drugs used in bronchial asthma	Lecture	Written exams / OSPE	1.54	0-5%
P6 Pulmonary functions tests II	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Chemical Regulation of Respiration	Lecture	Written exams / OSPE	1.54	0-5%
Pulmonary vasculature diseases	Lecture	Written exams / OSPE	1.54	0-5%
Viral & Fungal pneumonia	Lecture	Written exams / OSPE	1.54	0-5%
Development of the respiratory system	Lecture	Written exams / OSPE	1.54	0-5%

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
PBL-1b- Bronchial Asthma	Self directed supervised learning	Written exams / OSPE	3.08	0-5%
P7- Lab diagnosis of upper respiratory tract infections	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Respiratory tract tumors	Lecture	Written exams / OSPE	1.54	0-5%
Clinical approach to patients with respiratory diseases	Lecture	Written exams / OSPE	1.54	0-5%
P8- Blood gases and Acid base analysis .	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Paragonimiosis	Lecture	Written exams / OSPE	1.54	0-5%
Effect of high altitude on respiratory physiology	Lecture	Written exams / OSPE	1.54	0-5%
Treatment of Pulmonary TB	Lecture	Written exams / OSPE	1.54	0-5%
Treatment of pulmonary embolism	Lecture	Written exams / OSPE	1.54	0-5%
P9- None neoplastic lesions of the respiratory tract	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%

Topics	Teaching strategies	Assessment methods	% Of total contact hours	% of total summative marks
Interstitial lung diseases	Lecture	Written exams / OSPE	1.54	0-5%
Clinical Presentation - Pulmonary Tuberculosis and lung tumors	Presentation / Self directed	Written exams / OSPE	1.54	0-5%
Drugs used in COPD	Lecture	Written exams / OSPE	1.54	0-5%
PBL2a- Bronchial Carcinoma.	Self directed supervised learning	Written exams / OSPE	3.08	0-5%
P10- Pneumonia and T.B	Demonstration /Hands on	Written exams / OSPE	3.08	0-5%
Radiology of the lungs	Lecture	Written exams / OSPE	1.54	0-5%
Pneumothorax and haemothorax	Lecture	Written exams / OSPE	1.54	0-5%
PBL2b- Bronchial Carcinoma	Self directed supervised learning	Written exams / OSPE	3.08	0-5%

Learning Resources (Copy and paste the table from courses specification)

Required Textbooks	1. Clinical Anatomy for Medical students; 7th ed.; Richard S Snell; Lippincott Williams & Wilkins; 2004. 2. Color Textbook of Histology; 3rd ed.; Gartner LP & Hiatt JL; WB Saunders Company; 2004. 3. Textbook of Medical Physiology; 12th ed.; Guyton AC and Hall JE; Saunders / Elsevier Co.; 2011. 4. Robbins Basic Pathology; 9th ed.; Cotran RS, Robbins SL and Kumar V; WB Saunders Company; 2011. 5. Lippincott's Illustrated Review of Pharmacology; 5th ed.; Richard A Harvey & Pamela C Champe; Lippincott's Williams & Wilkins; 2012. 6. Lippincott's Illustrated Review of Biochemistry; 5th ed.; Pamela C Champe; Lippincott's Williams & Wilkins; 2010. 7. Lippincott's Illustrated Review of Microbiology; 3rd ed. Richard A.Harvey ,Cynthia Nau Cornelisen and Bruce D. Fisher. Lippincott's Williams & Wilkins; 2013. 8. Lippincott's Illustrated Review of Immunology; 2nd ed. Thao Doan , Roger Melvold ,Susan Viselli & Carl Waltenbaugh ; Lippincott's Williams & Wilkins; 2013. 9. Markell &Voge Medical Parasitology; 9th ed.; Edward K, Markell and John DT; Saunders; 2007. 10. ABC of Learning and Teaching in Medicine; Cantillon P, Hutchinson L and Wood D; BMJ Publishing Groups Books; 2003. 11. Basic Radiology; 2nd ed.; Micheal YM Chen, Thomas L Pope, David J Ott; McGraw Hill; 2011. 12. Park's Textbook of Preventive and
Essential References Materials	1. Human Physiology from Cell to System; 8th ed.; Lauralee Sherwood; Brooks/Cole Pub. Co.; 2012. 2. Janqueira's Basic Histology; 12th ed.; Anthony Mescher; 2010. 3. Harper's Illustrated Biochemistry; 28th ed.; Robert K Murray; 2010. 4. Katzung Basic and Clinical Pharmacology; 11th ed.; Katzung B; McGraw Hill Medical Company; 2003. 5. Atlas of Medical Parasitology and Tropical Medicine; 6th ed.; Wallace, Causa & Pasvol; Mosby; 2006. 6. Atlas of Medical Parasitology and Tropical Medicine; Petersand Gillies; 2006.

	7. Kumar & Clerk Internal Medicine; 8th ed.; Saunders; 2013. 8. Jawetz Melnick and Adelberg's Medical Microbiology; 25th ed.; Brook GF, Carroll KC, Butel JS, Morse SA and Mietzner TA; McGraw Hill; 2010.
Electronic Materials	• Animation videos on Youtube • Lecturia online teaching resources
Other Learning Materials	•

Course/module Coordinator	**Dr. Wajid Ali Chatha**
Department	**Anatomy**
Date	**05/01/2022**

Related check lists

Respiratory Module

PBL Evaluation

PBL N0 ---------- Session ---------- Topic ----------

NO	Name	ID	Participation in discussion Active listening	Knowledge of topic	Propose solution & critical thinking	Total 07
			C3 (1)	C1 (2)	C2 (2)	
1.						
2.						

3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

Date: **Name:** **Signature:**

Respiratory Module

Clinical presentation Evaluation

	Name	ID	Core Knowledge	D/D, Investigations & management plan	Presentation skill	Total
			C1 (1)	C2 (1)	C3 (1)	03
1						
2						
3						
4						

5						

Signature: **Date:** **Name:**

After the end of the course, please give your **FEEDBACK** through the following QR code: