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| **Course Title:**  | Respiratory system  |
| **Course Code:** | 382 RES-5 |
| **Program:** | Bachelor of Medicine and Bachelor of Surgery (MBBS) |
| **Department:**  | N/A |
| **College:** | College of medicine  |
| **Institution:** | Najran University  |

# A. Course Identification

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| --- | --- |
| **1. Credit hours: 5 (4+1)** |  |
| **2. Course type** |
| **a.** | University |  | College |  | Department |  | Others (program) | **Ö** |  |
| **b.** | Required | $$√$$ | Elective |  |  |
| **3. Level/year at which this course is offered:** | Year-3, Semester-2 (level 8) |
| **4. Pre-requisites for this course** (if any)**:** Phase I blocks |
| **5. Co-requisites for this course** (if any)**: None** |
|  |

## 6. Mode of Instruction (mark all that apply)

| **No** | **Mode of Instruction** | **Contact Hours** | **Percentage**  |
| --- | --- | --- | --- |
| **1** | **Traditional classroom** | 85 | 68.55% |
| **2** | **Blended**  |  |  |
| **3** | **E-learning** |  |  |
| **4** | **Distance learning**  |  |  |
| **5** | **Other**  | 39 | 31.45% |

**7. Contact Hours** (based on academic semester)

|  |  |  |
| --- | --- | --- |
| **No** | **Activity** | **Contact Hours** |
| **1** | **Lecture** | 42 |
| **2** | **Laboratory/DR** | 24 |
| **3** | **Tutorial**  |  |
| **4** | **Others**  PBL | 16 |
|  |  **TBL**  | 6 |
|  |  **SDL** | 21 |
|  |  **BST** | 9 |
|  |  **Skill lab**  | 6 |
|  | **Total** | 124 |

# B. Course Objectives

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| 1. Course Description This course is delivered to level six, 3rd year medical students. The student acquires sound knowledge of respiratory system different structures (upper respiratory tract, lower airways, lung, pleura and thorax) as well as their functions which insure proper oxygenation of the blood. This course integrates basic knowledge of anatomy and physiology with the common problems and disorders of the respiratory system e.g tuberculosis, asthma and lung cancer. Therefore, in this block, the student can develop a problem solving approach to the relevant respiratory disorders, their diagnosis, and management. The intended objectives of the course are achieved through lectures, practical, seminars, bedside teaching, self-directed learning, problem-based learning sessions (PBL) and team base learning (TBL).  |
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| 2. Course Main Objective |
| **By the end of this course, the student is expected to:** 1) Acquire sound knowledge of Respiratory system structure and function2) Describe the symptoms and signs of some common diseases, injuries and disturbances of this system and their prevention.3) DevelopaproblemsolvingapproachtoRespiratorydisorders.4) Explain the pathogenesis of various Respiratory disease categories and their presentation, investigations (laboratory, radiological, etc), and management  |

# C. Course Content

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| --- | --- | --- |
| **No.** | **List of Topics** | **Contact Hours** |
|  | Introduction to The block |  |
|  | URTI PBL session (Discussion) | 2 |
|  | Nose, paranasal sinuses, trachea & bronchial tree (Ana.) | 1 |
|  | Functions of the respiratory system (phy) | 1 |
|  | Bony thoracic cage, intercostal muscles, nerves, and vessels(DR)Anatomy | 2 |
|  | Larynx, trachea and bronchial tree (Ana.) | 1 |
|  | Respiratory mechanics and pressures (phys) | 1 |
|  | Lungs & Pleura (Ana.) | 1 |
|  | Respiratory histology (Ana.) | 1 |
|  | Nose, pharynx, larynx, trachea and bronchial tree, Abdominal diaphragm (Ana.)(DR) | 2 |
|  | Surfactant and lung compliance (Phy) | 1 |
|  | pertussis infection and diphtheria (MIC)  | 1 |
|  | pertussis infection and diphtheria(MIC) SDL | 3 |
|  | Surfactant and lung compliance (Phy) | 1 |
|  | The pleura and lung DR (Ana.) | 2 |
|  | Bacterial & viral causes of LRTI (MIC) | 1 |
|  | Bacterial & viral causes of LRTI SDL (MIC) | 3 |
|  | URTI pathology (Path) | 1 |
|  | Antitussive expectorants and mucolytics (pharma) | 1 |
|  | Respiratory antibiotics (Pharma) | 1 |
|  | Respiratory histology (Ana.) Lab | 2 |
|  | Gas exchange (phy) | 1 |
|  | Development of the lung & trachea & cong. Anomalies (Ana) | 1 |
|  | URTI PBL session (Outcome) | 2 |
|  | lung volumes and capacities Lab (Phy) | 2 |
|  | Obstructive lung disease PBL session (Discussion) | 2 |
|  | TBL1 Respiratory Function (Physiology) | 2 |
|  | Airway management Skills lab (Surgery)  | 3 |
|  | Pulmonary circulation and V/Q ratio(Phy)  | 1 |
|  | Oxygen transport (Phy) | 1 |
|  | carbon dioxide transport (Phy) | 1 |
|  | (Pharm) (lab) | 2 |
|  | Mycobacteria (Mic) | 1 |
|  | Opportunistic mycoses (Mic) | 1 |
|  | Pathology of obstructive lung diseases (path)  | 1 |
|  | Diagnostic respiratory tract infection (lab) 1(Mic)  | 2 |
|  | Bronchial Asthma medicines (pharma)  | 1 |
|  | Autacoids (Pharm)  | 1 |
|  | TB (Path) | 1 |
|  | Hypoxia & cyanosis (Phy)  | 1 |
|  | Systemic mycosis (Mic)  | 1 |
|  | Respiratory Parasites (Mic)  | 1 |
|  | Obstructive lung disease PBL (outcome) | 2 |
|  | Diagnostic of respiratory tract infection (lab) 2(Mic)  | 2 |
|  | Pulmonary infection and tumor PBL session (Discussion) | 2 |
|  | TBL2 Respiratory Tract Infection (Microbiology) | 2 |
|  | Control of resp. 1(phy)  | 1 |
|  | Control of resp 2(Phy)  | 1 |
|  | Pulmonary tuberculosis and examination of pleural aspirate  | 1 |
|  | Examination of pleural aspirate SDL  | 3 |
|  | Respiratory viruses (Mic)  | 1 |
|  | Diagnostic methods of TB (lab)(Mic) | 2 |
|  | Lung tumors (Path) | 1 |
|  | Anti-tuberculous drugs (Pharma) | 1 |
|  | Emerging Resp. viruses (MERS—CoV,COVID-19, lu viruses), bronchiolitis, therapeutic gases | 1 |
|  | Emerging Resp. viruses (MERS—CoV,COVID-19, lu viruses), bronchiolitis, therapeutic gases SDL | 3 |
|  | Dynamic pulmonary function tests Lab (Phy) | 2 |
|  | Antiviral drugs (Pharm) | 1 |
|  | Respiratory system under stress (high altitude & diving), acute and chronic mountain sickness (Phy) | 1 |
|  | A acute and chronic mountain sickness SDL (Phy) | 3 |
|  | Antiviral drugs (Pharm) | 1 |
|  | Parasites affecting the respiratory tract (lab) (Mic) | 2 |
|  | Respiratory evaluation BST (medicine)  | 3 |
|  | PBL Session pulmonary infection and tumor (outcome) | 2 |
|  | Pleural disorder PBL (discussion) | 2 |
|  | respiratory failure TBL | 2 |
|  | Chest tube and underwater seal skill lab | 3 |
|  | Congenital diaphragmatic hernia, CPAM, emphysema  | 1 |
|  | Congenital diaphragmatic hernia, CPAM, emphysema SDL | 3 |
|  | Practical Pathology-LAB. path | 2 |
|  | Pneumo- & hemothorax (Surgery)  | 1 |
|  | Resp. Tract Radiology (Radio) | 1 |
|  | Bedside Teaching (hospital) (Pediatrics) BST | 3 |
|  | Clinical presentation, diagnosis and management of the common respiratory tract system infection (Med)  | 1 |
|  | Management of the common respiratory tract system infection (Med) SDL | 3 |
|  | PBL Pleural disorder (Outcome) | 2 |
|  | Bedside Teaching (hospital) (Medicine) BST | 3 |
|  | Acid base balance (physiology) | 1 |
|  | Occupational lung disease (medicine) | 1 |

# D. Teaching and Assessment

## 2. Assessment Tasks for Students

| **#** | **Assessment task\***  | **Week Due** | **Percentage of Total Assessment Score** |
| --- | --- | --- | --- |
| **1** | Mid-block exam  | Week 3 | 20 % |
| **2** | TBL assessment | Weeks 2-4 | 10% |
| **3** | PBL assessment | Weeks 1-4 | 10 % |
| **4** | End of course exams:- Written: MCQs (40%) - Practical: OSPE/OSCE (20%) | Week 5 | 60% |

**\*Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

# F. Learning Resources and Facilities

## 1.Learning Resources

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| --- | --- |
| **Required Textbooks** | 1. Guyton Textbook of Medical Physiology, John E. Hall, 13th edition, 2016.
2. Clinical anatomy for medical students. Richard S. Snell 9th edition.2014.
3. Langman's Medical embryology. T.W. Sadler12th edition, 2012.
4. Jangueira’s Basic Histology: text and atlas .Anthony L. Mescher, 13th edition, 2013.
5. Jawetz, Melnick & Adelberg’s Medical Microbiology, Karen C. Carroll et al, 27th edition. 2016.
6. Basic and clinical Pharmacology, Bertram G. Katzung,AnthonyJ. Trevor. 13th edition, 2015.
7. Davidson's essentials of medicine , J. Alastair Innes.2nd edition.2016
8. Harpers Illustrated Biochemistry. Robert K. Murray et al, 29th edition, 2012.
9. Merkell and Voge’s Medical Parasitology, David T. John et al, 9th edition.2006.
10. Bailey & love’s: Short Practice of Surgery. Norman S Williams et al.26th edition.2013
11. Harrison's Manual of Medicine, 17th Edition
12. Nelson textbook of pediatrics
13. Muir`s Textbook of Pathology by RNM MacSeen and K Whaley, 13th edition
14. 14) Basic pathology by Kumar, Cotran and Robbins
 |
| **Essential References Materials** | 1. **Anatomy, Embryology And Histology:**
* Grant’s Atlas of anatomy. Anne M.R Angur , Arthur F dalley, 13th edition 2016
* Langman's Medical embryology. T.W. Sadler12th edition, 2012.
* Jangueira’s Basic Histology: text and atlas Anthony L. Mescher, 13th edition, 2013.
1. **Physiology:**
* Ganong’s Review of Medical Physiology, Kim E. Barrett et al, 25th edition, 2016.
1. **Biochemistry:**
* Harpers Illustrated Biochemistry. Robert K. Murray et al, 29th edition, 2012.
1. **Pharmacology:**
	* Goodman and Gillman. The Pharmacological basis of Therapeutics. New York: McGraw-Hill, 12th edition.2011.
2. **Pathology:**
	* Robbins and Cotran Pathologic Basis of disease. Kumar etl al. 9th edition, 2015
3. **Microbiology:**
	* Jawetz, Melnick & Adelberg’s Medical Microbiology, Karen C. Carroll et al, 27th edition. 2016.
	* Merkell and Voge’s Medical Parasitology, David
		1. T. John et al, 9th edition.2006.
4. **Medicine:**
	* Davidson's essentials of medicine , J. Alastair Innes.2nd edition.2016
5. **Surgery:**
* Bailey & love’s: Short Practice of Surgery. Norman S Williams et al.26th edition.2013
 |
| **Electronic Materials** | **Saudi Digital Library (SDL)** |
| **Other Learning Materials** |  |

## 2. Facilities Required

| **Item** | **Resources** |
| --- | --- |
| **Accommodation**(Classrooms, laboratories, demonstration rooms/labs, etc.) | 1. Lecture room suitable for students.
2. Laboratories (dissection room-DR, physiology, biochemistry, microbiology, pathology, pharmacology and clinical skill lab) suitable for students.
3. Teaching hospital for bedside teaching
 |
| **Technology Resources** (AV, data show, Smart Board, software, etc.) | 1. Computers and multimedia projectors in lecture room, PBL room, TBL room and laboratories.
2. There is a need for computers with network and internet access for student learning.
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| **Other Resources** (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | Library is supplied with references, textbooks, and electronic resources |

# H. Specification Approval Data

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| --- | --- |
| **Council / Committee** |  |
| **Reference No.** |  |
| **Date** |  |